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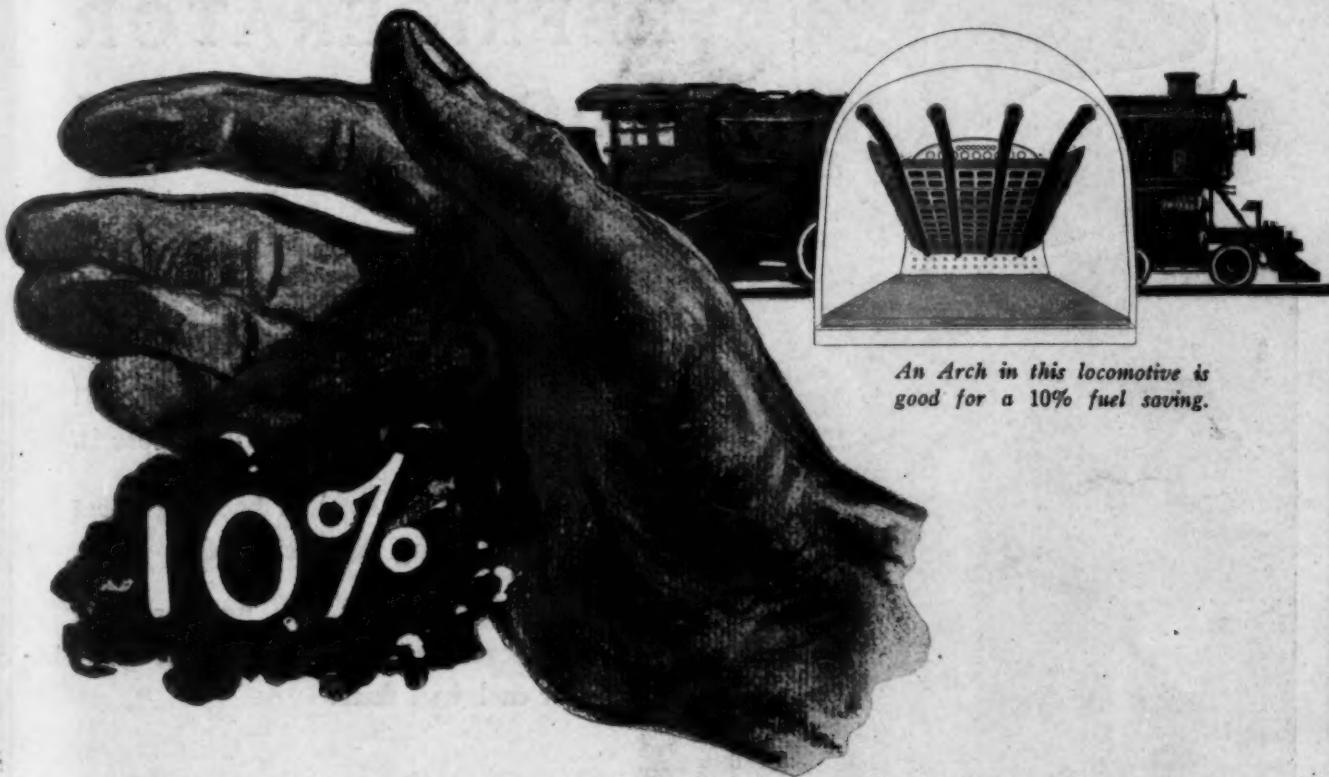
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# Railway Age

FIRST HALF OF 1924.—No. 2

NEW YORK—JANUARY 12, 1924—CHICAGO

SIXTY-NINTH YEAR



An Arch in this locomotive is good for a 10% fuel saving.

## COAL-EATERS

A coal waster is a coal waster whether it runs on a branch or hauls a limited.

Many locomotives working in obscure places were forgotten when Arches were generally applied.

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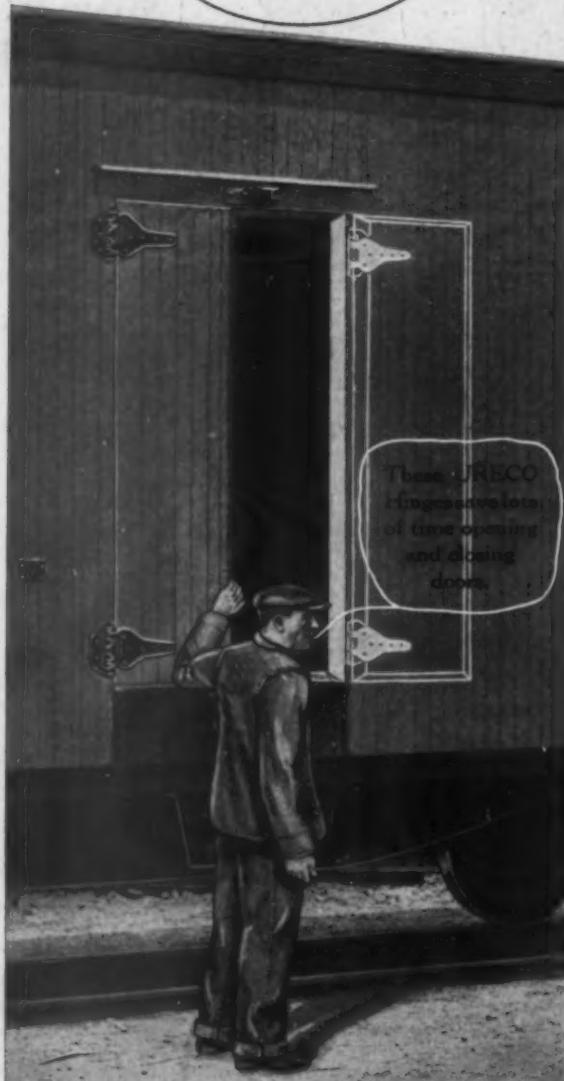


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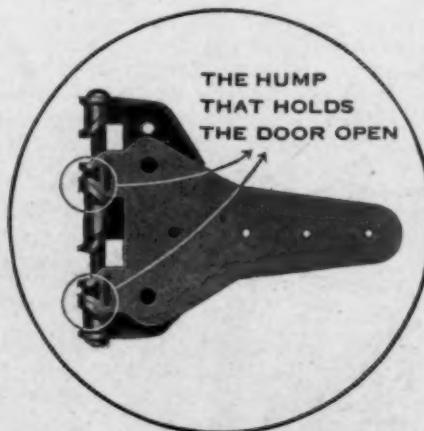


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# EDITORIAL

# EDITORIAL

The Table of Contents Will Be Found on Page 5 of the Advertising Section

## Indexes to Volume 75

**T**HE INDEXES to the last volume of the *Railway Age* are now ready for distribution. Those desiring indexes to this volume should advise the New York office, 30 Church street.

An officer of a local transportation company recently pointed to the marked change which has taken place in the character of street car patronage as one of the primary causes of the difficulties with which these public utilities are now confronted.

**An Important Feature of Station Design**

"Twenty years ago," he said, "everyone rode on street cars. Today a very large part of the general public rides exclusively in taxicabs or private motor cars." This change in local transportation has also exerted a marked influence on the burden placed on passenger station facilities in large cities. Whereas a decade or two ago most people arrived or departed from stations in street cars or buses, an ever-increasing proportion is now using automobiles. In some large cities this proportion ranges from 50 to as high as 95 per cent. As a consequence it is becoming increasingly difficult to provide adequate loading space for these vehicles, but even more serious is the problem of arranging ample parking areas where the cars may be held in reserve for the periods of maximum demand. Many stations are located in the congested portions of cities where curb parking has become virtually prohibitive. On the other hand, land values are such that provision for adequate parking area on railroad property places an enormous burden on the carrier. But the end is not yet. So rapid has been the growth in the use of motor vehicles in recent years that the plans for a number of large passenger stations now under construction were prepared at a time when this problem was nowhere nearly as serious as it is today. For several years there has been more or less speculation as to the time when this country would reach the saturation point in the ownership of motor cars, but the constant increase in the sale of automobiles has upset all of these calculations. It is clear, therefore, that the maximum utilization of motor cars is not yet in sight and that the design of any railway facilities involving contact with street vehicles must make liberal provision for future requirements.

The foremen and subordinate officers who come in direct contact with workers on the railroads carry heavy responsibilities.

**Inspiring the Supervisory Forces**

They stand between the managements and the men; they must see that the policies of the management are understood by the men and carried out and at the same time they must be in position intelligently to direct the energies of the workers and see that their needs are interpreted to the management. It is vital, therefore, that they should clearly understand the policies of the management, as well as the art of directing and handling men. As the railroads have grown in size

and the duties and responsibilities of the supervisory staff have increased, it has been found more and more difficult to find the time and means of educating the foremen and subordinate officers to these things. It seems to be pretty generally recognized, however, that special measures must be adopted to overcome this deficiency. I. U. Kershner of the Pennsylvania System told the members of the New York Railroad Club last May of the special lecture and discussion courses which were inaugurated by that road for the training and inspiring of the supervisory forces. Two years ago the first course of this kind was tried out at Harrisburg, 308 being enrolled. Last year five such courses were held, with a total enrollment of 1,845. This year courses are being given at nine points in the eastern region, with a total enrollment of 3,400 foremen and other supervisory officers. Instead of ten weekly lectures, however, eight bi-weekly meetings are being held this year. One hour is given over to a lecture and then the audience is divided into groups of from 20 to 30 members, who spend the following hour under a capable leader, discussing three assigned questions which bear on the subject of the lecture. The courses are purely educational and marked progress has been made in helping the members improve their effectiveness and also give them a better understanding of the policies and aims of the company. The courses for the season are now half completed. One benefit, which is more or less incidental, is the fact that the foremen and supervisory officers from the different departments are getting much better acquainted and this naturally results in a tendency toward more cordial and intelligent co-operation between the departments.

It is an old but true saying that one cannot stand still, for when he is doing this he is in reality moving backward.

**Spending Money to Save Money**

To no industry does this better apply than to the railways. To cope with the constantly growing traffic and the demands for increased service, the roads are faced with the necessity of making large expenditures, not only to provide the requisite capacity but also to reduce their operating costs. The roads which have made the most liberal expenditures for this purpose are, with few exceptions, the ones which are showing the most favorable earnings today, while in general those which are showing the least satisfactory earnings are those which have made relatively few improvements. A good example of the returns from investments of this character is afforded by the Illinois Central. This road has expended \$225,000,000 for improvements and extensions to its facilities since 1910. As a result it was able to handle 97 per cent more ton-miles in 1922 than in 1910 with an increase in freight train-miles of only 5 per cent. This resulted in an estimated saving in the direct cost of train operation of \$21,341,652. Assuming that the money for new improvements cost the road 5½ per cent, the saving over and above the increase in fixed charges aggregated nearly \$9,000,000, which sum was available for other uses. This result is borne out by the experience of the Kansas City Southern. During the last 18 years \$18,000,000 of outside money has been expended

for improvements, the interest on which is \$900,000 per year. During this time the traffic, measured in ton-miles, has increased 102.5 per cent, while the freight train-miles have decreased 28 per cent. The heavier train load which has been made possible by the improvements in both power and roadway effected a saving of \$4,599,088 in 1922, or five times the interest charges. Now that the roads have demonstrated their ability to handle with the facilities available, any traffic which may reasonably be expected this year, they can afford to give renewed attention to those improvements which will contribute to reductions in the cost of operation. These may consist of additions to equipment and roadway to reduce congestion and delay by increasing capacity; they may consist also of the reconstruction of locomotives to enable them to operate more efficiently and more economically, or they may embody reduction of grades, etc. In short, 1924 bids fair to be a year of "economy" projects.

## The Decision in the "Recapture" Case

THE DECISION of the Supreme Court of the United States in which it upheld the constitutionality of the "recapture" clause of the Transportation Act suggests a number of reflections. Since the court has upheld this provision, it is fortunate that it has rendered its decision so soon. Its promptness has deprived radical statesmen of the argument that the railways are trying to keep those parts of the Transportation Act which they regard as favorable to them and to destroy those parts that they regard as unfavorable to them and that, therefore, the rate-making provisions as a whole should be repealed.

There will be wide difference of opinion as to the effect upon the future of the railways of this decision. Some railway officers wanted the recapture clause destroyed while others wanted it retained. The former will regard the decision as encroaching upon what they have heretofore regarded as the constitutional rights of investors in railways and as a development which will tend to make regulation more socialistic and more restrictive of enterprise and initiative in the railroad business. The *Railway Age* never has shared this point of view. We have believed that some such provision was necessary to make practicable a policy of regulation of rates which would secure to the railways as a whole the opportunity to earn a reasonable and adequate net return. We have believed and still believe that the rate-making provisions, including the recapture clause, will tend more and more as time passes to cause the weak railway and the average railway to be allowed to earn larger returns than they would otherwise be allowed to earn, while they will not prevent the stronger roads from being allowed to earn and keep practically as large returns as they would have been allowed to earn and keep if the rate-making provisions, including the recapture clause, had not been passed.

The decision has, however, a broad significance which it would be a very great mistake for railway managers to ignore. It illustrates strikingly the tendency of the courts, and especially of the Supreme Court, to uphold laws and regulations more and more sweeping in their character. No measure ever passed by Congress seemed more plainly unconstitutional than the Adamson Act. Probably if it had been passed in 1906 instead of in 1916 it would have been held invalid; but the Supreme Court upheld it. It seems probable that if the recapture clause had been passed fifteen years before it was, it would have been held unconstitutional. Now, however, it is held constitutional.

The reason why the trend of the decisions of even our highest court has changed seems obvious. Public sentiment regarding property rights has changed. No branch of the

government in a democratic country such as ours can fail to be affected by a great change of public sentiment. It is affected both directly and indirectly. It is affected directly because Supreme Court justices, for example, die or retire and are inevitably in the long run succeeded by men who largely share the prevalent sentiment of their time. Furthermore, even those Supreme Court justices and other public officials who were appointed or elected when a different public sentiment prevailed are influenced by later changes of sentiment.

The important and vital fact which such decisions as those in the Adamson Act and the recapture clause cases ought to drive home is, that in the long run public sentiment in a country with a democratic government such as ours is bound to determine the constitutional provisions, the laws and the interpretations of constitutional provisions and laws, under which property must be held and business must be done; and that, therefore, if the essential rights of property are to be maintained and business is to be successfully conducted there must be created and maintained a public sentiment favorable to the protection of the essential rights of property and to legislation and governmental administration which will make it possible to do business successfully.

One of the greatest mistakes the large business interests of the United States have made in the past has been that of failing to make real efforts to educate public sentiment regarding questions affecting property and business, and then, when public sentiment has caused the passage of legislation adverse to property and business, appealing to the courts to overthrow the objectionable legislation as unconstitutional. It is a principle familiar to every lawyer that the courts will resolve every doubtful question regarding the constitutionality of a law in such a way as to tend to uphold the law. Nevertheless, over and over again we have witnessed the spectacle of lawyers taking into court provisions of law in regard to whose constitutionality there were the widest differences of opinion among the lawyers themselves. The result has been that repeatedly the courts have upheld as constitutional laws which, from the standpoint of public policy, were wholly unsound. The fact that the courts have upheld them has tended to confirm the public in the belief that they were good laws, when, as a matter of fact, a law may be perfectly sound from a constitutional point of view and wholly unsound from an economic point of view. The effect of such unsuccessful litigation is bad.

No large industry has more often made the mistake of ignoring public sentiment and then appealing to the courts to set aside laws public sentiment has caused to be passed than the railroads. The results have been decisions which as a whole have more and more narrowly defined the constitutional rights of the railways. Their constitutional rights have now been so narrowly defined that if a policy should be adopted which gave them all their constitutional rights but gave them absolutely nothing more, regulation would be so burdensome and restrictive that it would stop the development of the railways of the United States and make continuance of private ownership impossible.

It is high time that railways and other large business interests should greatly reduce their efforts to assert merely their constitutional rights and should greatly increase their efforts to create a public sentiment which will understand the elementary principles of economics. What is needed is a public policy in dealing with property and business which will recognize the fact that regardless of what may or may not be constitutional, it is essential to the welfare of the public itself that owners and managers of property should be allowed enough freedom in its management to exercise enterprise and initiative and to make sufficient profits to continue adequately enlarging the means of production, distribution and exchange. With respect to the railways the most important question before the country is not the narrow one of what their constitutional rights are, but the broad one of

how they must be regulated if they are to be enabled to make the additions and improvements to their property essential to rendering good and adequate service at reasonable rates.

The railways need fewer lawsuits and more statesmanship. In the long run they would gain more by taking such questions as that of the recapture clause to Congress and the people than by taking them to the courts. Probably the most important question now confronting the railroads is that of the valuation to be placed upon their properties. Undoubtedly that question will finally get into the courts. How it will be decided, however, will depend largely, and perhaps even mainly, upon public sentiment. The important question involved is not the legal question of what valuation they are constitutionally entitled to, but what net return they must be allowed to earn to provide the public with good and adequate service.

## What Car Loadings Indicate

WHILE THE INCREASE in freight car loadings recently has been smaller than it was during most of the year 1923, the changes have not been of such a character as to tend to negative the prevalent view that general business will continue to be good. Since the number of cars loaded with freight has become widely accepted as one of the most reliable indications of the general trend of business, it is worth while to analyze the statistics of loadings for the most recent weeks for which they are available to ascertain just what kind of freight shipments are increasing and what are declining.

In the closing weeks of the year 1922, the railways were moving a record-breaking business for that time of year. Therefore, comparisons of the loadings of that period with the loadings in the corresponding part of 1923 are interesting and significant. The last date for which complete car-loadings are available at this time is that ended December 22. The accompanying table shows the total cars loaded in the six weeks ended December 22, 1923, and the total increase over 1922, and also the total loadings and the increases and decreases in loadings of the various kinds of commodities.

FREIGHT CARS LOADED IN SIX WEEKS ENDED DECEMBER 22, 1923,  
COMPARED WITH 1922.

		Increase	Decrease
Total cars loaded .....	5,507,811	148,675	20,712
Grain and grain products .....	295,715	.....	9,639
Live stock .....	231,806	9,494	.....
Coal .....	1,042,312	.....	112,390
Coke .....	68,202	.....	9,639
Forest products .....	408,581	41,114	.....
Ore .....	115,867	26,037	.....
Merchandise and L. C. L. .....	1,433,280	110,061	.....
Miscellaneous .....	1,911,048	103,710	.....

It will be seen that the increase in total loadings was 148,675 cars. Probably the most significant figures in the table are those for merchandise and less than carload freight, for miscellaneous freight, and for coal. Merchandise and miscellaneous freight consist chiefly of manufactured products. When shipments of these products are large, they indicate that large purchases are being made by the general public, and that even though such purchases should decline, manufacturing activity would continue on a large scale for some time afterward. The shipments of these products were almost 224,000 carloads greater in the period of 1923 under review than in the same weeks of 1922. There were also significant increases of more than 41,000 carloads in the shipments of forest products, and of more than 26,000 carloads in the shipments of ore.

The largest decline was in the shipments of coal, the decline being more than 112,000 carloads. If coal shipments had been only as large in these weeks as they were in 1922 the total increase in car loadings would have exceeded 261,000 cars. The mild winter doubtless was the principal cause of the decline in coal shipments, and therefore, it cannot be

inferred from it that there is any tendency of general business to decline.

While the increase in freight business toward the close of the year was less than it seemed reasonable to expect, this was principally due to the decline of coal shipments, and analysis of the car loadings supports the view that general business will continue to be active and railway traffic to be large.

## A New Method of Financing

THE RAILWAYS desire to make all improvements that are needed to enable them to handle available traffic or to effect economies in handling it. From the railway standpoint means of effecting economies are quite as important as means of increasing the amount of traffic that can be handled.

The greatest difficulty encountered in trying to make improvements that will effect economies is that of raising capital for them. For this reason, especial interest attaches to a new method of financing improvements in locomotive terminals which is described in an article published elsewhere in this issue of the *Railway Age*. The plan is not applicable to locomotive terminal improvements alone. It is believed it may be used to finance many other improvements which involve the acquisition of patented equipment or devices upon which an effective lien may be placed because of the fact that they are covered by patents. The plan, however, was devised to enable the railways to finance locomotive terminal improvements and it will, therefore, be discussed here mainly from that point of view.

Within recent years the managements of railways have become more and more keenly conscious of the difference between the difficulties they meet in raising new capital to purchase locomotives and cars, and those they meet in raising new capital with which to make improvements in the permanent structures of the properties. The equipment trust is in effect a mortgage on the locomotives and cars bought under it. If the interest on equipment trust notes and the installments of the notes are not paid as they come due, the trustee under the trust may take steps to secure possession of the locomotives and cars acquired by the sale of the equipment trust notes. In other words, the locomotives and cars themselves, rather than the general credit of the railroad that buys them, constitute the security for the equipment notes. Therefore, even a railway which already is failing to earn its fixed charges usually can buy new locomotives and cars by the issuance of equipment trust notes.

On the other hand, it has always been assumed that if a railway cannot sell its stock—and most of them cannot at present—the capital for making improvements other than in rolling stock must be raised by the sale of bonds, which are based on a mortgage on part or all of the railway's permanent property, or with short-time notes which are based upon its general credit. Many railways have exhausted their ability to sell bonds. Many have not enough credit to sell short-time notes; and furthermore, the issuance of short-time notes based upon the general credit of the railway has proved in more than one case to be a dangerous expedient. Short-time notes have a tendency to come due when it is least convenient to pay them and have been the means of throwing several railways into bankruptcy.

On almost all railways, however, there are needed improvements which if they could be made would effect savings in operating expenses sufficient in a short time to pay for them. But how can these improvements be made and the economies secured? They cannot be made unless in some way the railway can raise the money necessary to make them. While the savings effected may soon liquidate the investment made to secure them, the investment must be made before the savings can be effected.

It is a well known fact that on many railways, because of

these and other conditions, the making of improvements needed to render it possible to get the maximum service from modern rolling stock, and especially modern locomotives, has lagged far behind the provision of the rolling stock. There are numerous railways that have acquired large and modern locomotives from which they cannot get the maximum service they are capable of rendering because these railroads have been unable to provide terminal facilities for adequately maintaining and promptly turning the new power.

The new plan of financing locomotive terminal improvements, which is described elsewhere, has been devised for solving the problem thus presented. The method is similar to that used in financing the purchase of rolling stock. Those having the locomotive terminal equipment to sell install it and take the railway company's notes for it for a period of two years or ten years. The notes are secured by patented equipment sold to the railway and the use of which by the railway may be discontinued at any time if the interest and principal installments of the notes are not paid. The railway's notes are turned over to a financial concern which does not sell them to the public, but which holds them as collateral and bases upon them notes of its own which it sells to the public.

The basic assumption upon which the financing is done is that the savings in operating expenses produced by the installation of the locomotive terminal improvement will be so large that in a short time they will be sufficient to pay not only the interest on the notes issued by the railway, but also liquidate the principal of them. When this has been done the improvements made, including the patented equipment which are a part of them, will become the sole property of the railroad.

One railway already has adopted this plan for financing a locomotive terminal improvement. It is expected by the sponsors of the plan that others will soon do so. Whether the locomotive terminal equipment installed will effect as large economies as are anticipated is, of course, a matter for determination by those who sell it and the railways that buy it. It is easily conceivable, however, that this new method of making improvements possible will prove to be an important development in the history of railroad financing.

When it was first proposed to finance the acquisition of locomotives and cars by the equipment trust method much skepticism on the part of both railway managers and investors had to be overcome. This is likely to be true with respect to this new method of financing. Certainly, however, the new method merits thorough investigation and open-minded consideration.

## Books and Special Articles of Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

### Books and Pamphlets

*An Address by L. F. Loree, President, the Delaware and Hudson Company, at the Annual Banquet of Bankers Club of Cleveland, December 13, 1923.* On present railway regulation. 15 p. Publisher not given, but probably obtainable from the Delaware & Hudson Co., New York.

*Apprentice Education. A Survey of Part Time and Other Forms of Extension in Their Relations to Apprenticeship in the United States.* U. S. Federal Board for Vocational Education, Bulletin No. 87. Section E includes discussions of railroad apprentice schools, p. 459-484. 521 p. Published by Govt. Print. Off., Washington.

*The Brown and Other Systems of Railway Discipline,* by K. J. Norman Browne. 67 p. Published by Railway Gazette, London, England.

*Commodity Prices in Their Relation to Transportation Costs.* Bulletin No. I: Grains—Wheat, Corn and Oats. Compiled by Bureau of Railway Economics. 6 p. Issued by Bureau of Railway Economics, Washington.

*Consolidation of Railroads Into Systems. A Review of Some of the Financial Considerations and Processes That Consolidation Under the Transportation Act Imposes,* by A. J. County. 42 p. and table. Publisher not given, but probably obtainable from author or American Economic Association.

*Grover Cleveland, the Man and the Statesman,* by Robert M. McElroy. Particularly Chapter 5 of Vol. 2, "The Pullman Strike of 1894." 2 vols. Published by Harper & Bros., New York.

*The National Cost of Railroad Accidents,* by Lew R. Palmer. Abstracts of this study were published in a recent *Railway Age*. 75 p. 9 tables. Published by National Safety Council, New York.

*Shore Control and Port Administration.* Report compiled by U. S. Board of Engineers for Rivers and Harbors. Part 1, "Control of the Port," by Edmund Brown, Jr., includes study of history and legal aspects of railroad relations to various ports, citing important court decisions. Part 2 is a port-by-port summary of organization and duties of administrative bodies at ports of the U. S. 232 p. Published by Govt. Print. Off., Washington.

### Periodical Articles

*As the Jones Family Sees It,* by Will Payne. An historical review of railroad finance pointing out why railroad securities are unpopular with small investors. Saturday Evening Post, January 5, 1924, p. 25, 48, 50, 53.

*"Closed Season" for Growth Needed by Railroads,* by W. A. Schumacher. Trade and Transportation Bulletin, January, 1924, p. 1-2.

*Does Travel Broaden a Steer's Mind? If Not, a Lot of Beef Critters Are Hauled About in Vain,* by William Johnson. Mentions unnecessary transport of live stock and consequent additional freight charges occasioned by present marketing practice. Country Gentleman, December 29, 1923, p. 13, 24.

*The Economics of Transport,* by J. H. Jones. An examination of existing theories and practices. Journal of the Institute of Transport, December, 1923, p. 75-81.

*Is Any Man Big Enough for the Job?* by Henry Bruère. Management problems of proposed consolidated systems compared with those of the steel corporation and the American Telephone & Telegraph Co. Nation's Business, January, 1924, p. 13-15.

*A Method of Calculating a Fair Rate for the Transportation of Western Coal.* Discussion of M. J. Butler's paper of same title [see list of December 22], by Professors Treadgold and Jackman, with reply by Mr. Butler. Engineering Journal [Canada], January, 1924, p. 20-22.

*Our Railroad Problem—a Glance Backward as Well as Forward,* by Bronson Batchelor. Favors Warfield pooling plan. Review of Reviews, January, 1924, p. 48-52.

*A Programme for Labor Unions,* by F. Lauriston Bullard. What railroad and other unions can contribute to industrial stabilization. Atlantic Monthly, January, 1924, p. 82-93.

*Railroad Consolidation Means Economies and Better Service,* by Walker D. Hines. New York Tribune, January 7, 1924, p. 22, col. 1-2.

*Railroad Grouping in the Northwest. The Objections to the I. C. C.'s Proposed Separation of Burlington and Great Northern.* Interviews with Presidents of Northwestern railroads. Barron's, December 31, 1923, p. 5.

*The Railway Freight Situation,* by John A. Droege. Tech. Engineering News [Mass. Inst. Technology], December, 1923, p. 206, 232, 234.

## Letters to the Editor

[The RAILWAY AGE welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about 250 words—are particularly appreciated. The editors do not hold themselves responsible for facts or opinions expressed.]

### Crown Sheet Welds

BALTIMORE, Md.

#### TO THE EDITOR:

Referring to the article beginning on page 1171 of the *Railway Age*, December 22, on possibilities and limitations of fusion welding, I note on page 1173 there is a cut showing the upper half of locomotive combustion chamber with a transverse weld across the crown sheet.

For your information would advise that it has not been the practice of the railroads or locomotive builders in the past four or five years to put any transverse welds in the crown sheets, except at junction of the crown sheet and rear tube sheet, and crown sheet and door sheet. The Bureau of Locomotive Inspection, Interstate Commerce Commission, will not countenance crown sheet welds at the location shown in the cut.

WALTER R. HEDEMAN.

### Character of Whistling Should Vary With Conditions

Owosso, Mich.

#### TO THE EDITOR:

I have read carefully the articles on crossing whistling by F. W. M. and F. E. C. in your issue of December 8, 1923, pages 1045 and 1046, and in line with your editorial on page 1042 of the same issue I am hereby entering the enginemen of the Ann Arbor in the contest to reach as nearly 100 per cent as possible in the matter of whistling according to the rules.

Considerable thought has been given this matter by the operating officers and the general claim agent of the Ann Arbor and about two years ago we put into effect the following rule:

"Whistle posts are placed 80 rods from each highway crossing on the right-hand side of the track. Enginemen and motormen must begin to sound signal 14-L at all whistling posts and continue the signal until crossing is reached."

Our enginemen were first carefully instructed in the matter of giving this signal by the trainmasters and road foremen of engines and we feel that the results have been all that might be expected. This rule is being incorporated in our new book of rules with the following addition:

"The signal may be either prolonged or repeated according to the speed of the train. In cities or towns where the speed is reduced, or stops are being made, the blast will be short and distinct to avoid complaint on the part of the public, city and town authorities."

While we do not claim to be 100 per cent perfect, we do believe that our enginemen are complying with this rule in more than 90 per cent of the cases. We made the change in the manner of whistling with the idea that while the old method of giving two long and two short blasts at the whistling posts might have been satisfactory in the days of the horse-drawn vehicle, this would not in many cases give proper warning to persons in motor vehicles, especially in the

case of closed cars or cars with curtains on. The only objection to this method of whistling has been in the more thickly populated centers, which accounts for our addition to the original rule.

On account of the variance in train speeds and the starting of the whistle at a given point, we do not feel that we can lay down a hard and fast rule as to the exact length or duration of each blast and good results have been obtained by leaving this to the judgment of the enginemen.

VICTOR PARVIN,  
Superintendent, Ann Arbor Railroad.

### Maintenance of Equipment Expenses

READING, PA.

#### TO THE EDITOR:

I have read the article entitled "Equipment Maintenance Out of Proportion" in the December 22 issue of the *Railway Age* with a great deal of interest, as I have noted for some time the disproportionate increase of maintenance of equipment expenses compared with maintenance of way and transportation expenses.

If we go back as far as 1905, we find that maintenance of equipment and maintenance of way expenses each ran about 20 per cent of the total operating expenses, but there has been a gradual spread between these two maintenance items since then, until now maintenance of equipment amounts to about 30 per cent of the total operating expenses.

The study of the subject as presented in your article covers the period from 1910 down through the first nine months of 1923, and the chart showing the relation of maintenance costs to total operating expenses on a percentage basis during all of this period brings out very emphatically the fact that there has been a gradual rise during all of these years in per cent of maintenance of equipment expenses to total operating expenses, whereas the ratio of maintenance of way expenses has remained fairly stationary.

The principal factors that have contributed to the abnormal increase in cost of maintenance of equipment have been quite fully discussed in your analysis, such as deferred maintenance and changes brought about by the railroad administration. Furthermore, there is no doubt that the excessive expenditures during 1923 were necessary to make up for the work that was not done during 1922, and also to meet the improvement program of the American Railway Association.

In making a further analysis and the reasons for the disproportionate increase in maintenance of equipment expenses, I would like to suggest that one factor that should be considered is the gradual but constant improvement in capacity and efficiency of the steam locomotive, which has been accomplished during the past 10 or 15 years and the effect this increase in size and complexity of equipment has had upon equipment maintenance as well as transportation expenses. The locomotives of today are equipped with a lot of auxiliaries and devices that were not generally used 10 or 15 years ago; such as, superheaters, stokers, feedwater heaters, electric headlights, power reverse gears, additional air brake equipment, etc. This growth in size and number of auxiliaries on our modern equipment has had the following effect:

1. Increase in ton-miles hauled per locomotive.
2. Increase in ton-miles hauled per pound of coal consumed.
3. Increase in cost of locomotive repairs per pound of tractive power.
4. Increase in cost new of locomotive, thereby increasing depreciation and locomotive retirement charges.

If transportation expenses have been relatively reduced by the modern locomotive, it necessarily follows that even if maintenance of equipment costs were stationary, there would

be a proportionate increase in the ratio of maintenance of equipment expenses to total operating expenses.

Improvements have also been made to other classes of equipment, which have added to their cost new, as well as to maintenance. The oil lamps formerly used for lighting passenger cars have been replaced by gas lighting systems, which in turn have been replaced by electric lights. This change has resulted in greatly increasing the first cost, as well as the maintenance cost without adding one bit to carrying capacity.

Every device that has been put on a locomotive to save steam or coal has resulted in increased maintenance costs for the reason that we have that much more apparatus to take care of.

If we can now make two tons of coal do the same work formerly accomplished with three tons, in ton-miles hauled, and if we have succeeded in producing a locomotive today that will haul twice the tonnage of the locomotive used a few years ago, we have accomplished a great reduction in transportation expenses, but this has not been effected without considerable increase in maintenance of equipment expenses.

I think it would be very interesting and profitable to continue the analysis of maintenance of equipment expenses further in order to determine, if possible, whether locomotive repairs, freight train car repairs or passenger train car repairs have been responsible for more than their share of the total increase in maintenance of equipment expenses.

Another explanation of the rising trend of maintenance of equipment costs compared with maintenance of way may be found when we consider the character of improvements that have been made during the last 20 years to roadway and structures. Expenditures on roadway and structures have produced more permanent and durable properties, tending to reduce maintenance costs, while expenditures for larger and more efficient locomotives and other improvements that have been developed on our modern equipment have resulted in increasing maintenance charges for this class of property.

W. G. EDMONDSON,  
Assistant Engineer Motive Power,  
Philadelphia & Reading.

## Business Methods in Agricultural Promotion

BOULDER, Colo.

TO THE EDITOR:

Make the local town pay, if it wants the Purebred Livestock Special to stop. Sign it up; get its name "on the dotted line." This was the method used recently in the operation of an agricultural instruction train which made a circuit in Colorado, and was briefly noticed in your columns—one of the most successful educational trains ever run on a Colorado railway. The promoters of the train, the Colorado & Southern, and the Burlington lines, represented by H. L. Ford, agricultural agent; the Colorado Agricultural College, represented by R. H. Felts; and the Agricultural & Livestock Bureau of the Denver Civic and Commercial Association, represented by D. W. Thomas, asked each town visited to contract to carry out stipulated provisions. An actual printed contract was signed on behalf of the train by the committee chairman and on behalf of the town by a special committee.

In this contract, the hour of arrival of the train, the number of hours it would stop, what it would bring in the way of demonstrations, etc., was set forth. Then came the following:

"The town and community of \_\_\_\_\_ Colorado, as represented by the aforesaid committee, in consideration of the visit of the Purebred Sire Campaign Special Train and its complement of speakers, does hereby agree and contract—

"1. To provide a local committee with a chairman to handle all arrangements and program.

"2. To provide a reasonable amount of local newspaper advertising.

"3. To have printed, distributed and displayed poster and handbill advertising announcing the visit of the Purebred Sire Special with place, date and time clearly given.

"4. To provide a supply of good alfalfa hay, ground oats, bran and corn to feed the stock carried on the train, for one day, the amounts needed to be designated and forwarded by the Purebred Sire Campaign Committee to the local committee at least 10 days before the arrival of the train, the said feeds to be on hand at or near the local stock yard or point where train will stop.

"5. To have the local town band, if there be one, present to entertain previous to and upon arrival of the train.

"6. To provide a suitable hall for a meeting in case of inclement weather.

"7. To have prepared and run at each local picture show for at least one week previous to the train, a slide advertising the event, date, place and time.

"8. To have the local picture theatres run at least two showings of a Purebred Sires film, one to two weeks before the train, same to be advertised in the community before showing and to be forwarded to the next town indicated, charges prepaid. It is understood and agreed that the aforementioned film is to be furnished free of all cost by the Purebred Sire Campaign Committee except the charges of forwarding same to the next indicated town.

"9. Further, that the local town committee representing the town of \_\_\_\_\_ will keep in touch with the chairman of the Purebred Sire Campaign Committee as regards the arrangements being made and will confer upon all changes, etc.

"10. Further, that the local town committee will cause to be properly and conspicuously distributed and posted any posters or advertising matter relating to the Purebred Sire Campaign which shall be forwarded by the Purebred Sire Campaign Committee.

"11. Further, that an earnest effort will be made to discourage and disapprove of the holding of any other meetings, auction sales or other gatherings which might detract from the Purebred Sire Campaign Special during the hours of its visit."

This agreement was not drawn up with the intention of ever enforcing it. From a legal standpoint, it may have flaws. That was beside the point, however; which was to put the town in the position of actually guaranteeing to do various important things to get the train to visit it—things which would practically guarantee its success. Although such was not in the agreement, the committee, at every town, pointed out to the local committee that this would be a trade-building opportunity for the local merchants, especially if they would put on some event, not interfering with the train but aiding it, which would draw the people in. Many towns did this—staging everything from barbecues to mock trials, bargain days and prize fights! One town, Sterling, seized the idea and bought 15 head of purebred female stock which it gave away on the day of the visit. Merchants put a premium on purchases for cash and on payment of old bills, and on the day of the train business in Sterling was stimulated to the extent of \$50,000, according to a conservative estimate.

Radio was another instrument used to make the train very successful. Dr. W. D. Reynolds, of the Reynolds Radio Company, Denver, operator of KLZ, one of the largest Western radio broadcasting stations, went along with the train. He had a receiving set, with loud speaker, which not merely entertained many, but received livestock quotations, right up to the minute, for posting on the train. KLZ, at Denver, every day at 10 a. m. and 3 p. m. gave out information about the train; where it was, where it would be next, the great interest it was arousing and why it would pay farmers to visit it. This feature increased the attendance.

Printed agreements were signed between the campaign train committee and the individual livestock breeders who furnished purebred bulls or boars, 60 of which were taken on the train for exchange for scrub bulls and boars; also between the owner of a scrub and the committee. Each breeder was relieved of any further expense, once he had delivered the animal to the train. He received advertising return, was supplied with name of recipient, and received his share of the total proceeds when scrubs taken in exchange were sold at Denver. The value of the purebred bulls and boars was approximately \$10,000. Between \$500 and \$600 was received for the scrubs taken in exchange, when sold on the Denver market.

The attendance at demonstrations aggregated 25,407, at thirty towns. Sterling turned out 3,179.

In many places, all the schools were induced by the train committee to close; where the school authorities would not do this, the train sent a speaker to address the children.

The train was an unusual success. The committee unanimously attributed this fact to the special pains which were gone to in advance of the start of the train.

JOHN T. BARTLETT.

## Highway Signals in Acworth

MARIETTA, Ga.

TO THE EDITOR:

Is the automatic wigwag signal an efficient crossing watchman? Or is it a nuisance and a menace to public safety? That is the question which the Supreme Court of Georgia will have to settle shortly, following an appeal made to it by the City of Acworth from an adverse decision in the Superior Court of Cobb County. Acworth has about 1,000 inhabitants, and is located on the main line of the Western & Atlantic Railway operated by the Nashville, Chattanooga & St. Louis. Between 40 and 50 trains a day pass through Acworth, 16 of them passenger trains. Some of the passenger trains go through at 45 miles an hour. The town has a number of large warehouses, and there are three side-tracks paralleling the main line.

Until the middle of October, 1923, Acworth had for 16 years two watchmen at its two principal crossings. The two watchmen were fixtures, as much as the fire marshal or the chief of police. Then, without any warning whatsoever, the railway decided to do away with the two watchmen and install automatic signals—a signal with a wigwag, a bell and a red light—to take the place of the human watchmen.

On October 13, men began putting the signals in, but the mayor and council of Acworth decided not to have any of these newfangled devices. They immediately passed an ordinance making human watchmen compulsory. A copy of this ordinance was taken to the men working on the new signals and they were ordered in the name of the law and the City of Acworth to cease operations. But the foremen politely informed the mayor that they were working for the Western & Atlantic Railway—not the City of Acworth—and went ahead with their work. Thereupon the mayor and council sent and arrested them. But the two men got bail and went right back to work. The inspecting engineer came and gave the apparatus a trial, and on the first of November the two watchmen quietly disappeared.

The mayor and council, however, were still determined; and they kept watch over those new signals in the hope that something would happen to them. Sure enough, something did. They say that a watched pot never boils; but the two new signals at Acworth did just exactly what the mayor, the council and all the neighbors had expected. They cut up, something scandalous. They would ring—according to the evidence given by the people of Acworth—and darn near everybody in Acworth testified against them before the case

was concluded—ring loudly when there weren't any trains coming. Then they would stop ringing when the trains got within 150 ft. of the crossing. They would remain silent while the limited went through at 45 miles an hour—and ring by the hour when a switch engine was at work.

The inhabitants of Acworth went to it without delay. They had something on the railroad—and they meant to get rid of those automatic signals once and for all. They sued in the Cobb County Superior Court, at Marietta, to prevent the road from using those signals and to compel it to reinstate the human watchmen. The road responded with a counter suit praying for a continuance of the automatic signals and restraining the City of Acworth.

And so, the fight was on. The case came up for hearing on December 7, before Judge D. W. Blair of the Cobb County Superior Court. The mayor, the members of the city council, the chief of police, and most of the inhabitants of Acworth were there to press their case. As for the railroad, it introduced signal engineers from every nearby railway, general managers, superintendents, and railroad men of all sorts and descriptions—not to mention a number of mayors, city managers and village presidents from all up and down its line, to prove that the automatic signal was effective.

The City of Acworth brought out evidence that the bell would ring and the arm would wave 15 minutes at a time when no train was coming. The W. & A. promptly traced this down to the switch engines operating on and off the main line and showed that this could be very easily remedied. The city then brought forth witnesses to prove that a similar signal at a crossing in Marietta did not work in the way it should; but for every witness Acworth produced against the signal, the road brought out two or three from Marietta to show that it was effective. So this evidence fell rather flat.

A telling blow was dealt the Acworth attorneys when George S. Pflasterer, signal engineer of the road, testified that he had installed 20 automatic signals on this division since 1910—and that since that time there had been only two accidents at crossings protected by the wigwag signal. Mr. Pflasterer estimated that more than 1,500 automatic signal devices were being sold each year by manufacturers, and said that they were successfully taking the place of the human watchman on nearly every railroad in the United States. Railway officers testified, almost without exception, that the human watchman was much less efficient than the automatic signal device. One declared that it was impossible for a railway to secure first-class men for this kind of work, let alone pay them adequate wages. The automatic signal is much less expensive, is on the job 24 hours a day, and is not subject to sickness, laziness or other human frailties. If it gets out of order, it will fall to such a position as to attract the attention of anyone attempting to cross, and warn them to be cautious. It was brought out during the trial that while the two watchmen cost the road \$3,982 a year, the entire cost of installing these two signals was only \$2,671—and their upkeep afterwards would be nominal: a sound economic reason for installing wigwags wherever they could replace watchmen.

In short, it became increasingly evident as the case went on that automatic signals in general are more efficient, less expensive, and better all-around than human watchmen, and that the failure of the signals at Acworth to operate properly was not due to any fundamental defect in the signals or of the system, but through the defective installation of those particular signals. The result was that Judge Blair sustained the injunction against the city, and permitted the road to operate the two automatic signals in the place of the human watchmen.

The city has now taken the case to the Supreme Court of Georgia. In the meantime, however, the two signals are operating perfectly, totally unconscious of all the rumpus they have stirred up.

B. T. A.

## "Decretion"

IOWA CITY, Ia.

**TO THE EDITOR:**

Referring to the letter of Marcus A. Roby in your issue of December 22, may I analyze his problem?

In 1905, automobile "A" being five years old, \$500 has been returned to the owner and placed in depreciation reserve. He has, therefore, so far as the automobile is concerned, only \$500 invested. He buys automobile "B," using the \$500 of reserve, and \$500 of new capital. He now has \$1,500 invested. At the end of 1910 automobile "A" disappears and there is \$1,000 in reserve to replace it. There will be \$1,000 in reserve each five years thereafter to replace the automobile retiring.

There will always be \$1,500 invested on which the public should pay a return, but the depreciation allowance each year will be \$200, which Mr. Roby may think is in part on the \$500 that he calls "decretion." I don't know any decretion in the problem except the annual loss of service life of the automobile.

Answering more directly the two questions that he asks: In 1905 the \$500 will be deducted from cost value because it has been returned to the owner, and the depreciation of each subsequent year will be deducted, all with the proviso, however, that the depreciation return to the owner is taken out of the business. If it is held for the business the return should be on the full amount of capital invested, which in the beginning of 1906 is \$1,500, and remains \$1,500 thereafter so long as the depreciation reserve is kept for the business, and is not invested in interest earning securities of some other kind. If it is so invested its earnings should be charged to income, and to this extent the public should be relieved of paying a return on it.

The second question I do not understand, but perhaps it will be answered if I say that the public should contribute the amount of ordinary repairs that constitute maintenance, and a reserve based on the full cost of both automobiles. Otherwise there will be insufficient earnings to make the necessary renewals.

I think the foregoing is sound, but it may have a hole in it.

W.M. G. RAYMOND,  
Dean, College of Applied Science, State University of Iowa.

## Co-operating With Unions

**TO THE EDITOR:**

We have read with great interest the address of W. H. Johnston, president of the International Association of Machinists, presented at the Railroad Y. M. C. A. conference at St. Louis and printed in the *Railway Age* of November 24, 1923. We are especially interested to find Mr. Johnston endorsing a policy of constructive co-operation. It is most extraordinary, as well as novel, to find a labor union employing a consulting engineer and hanging out its shingle as a specialist to treat and cure the personnel troubles of the railroads. How any organization which prior to July, 1922, was so bitterly antagonistic to railroad management, and so intense in its destructive activities, can be transformed into an organization of constructive co-operators is indeed a miracle. If the change represents a new policy based on a change of heart, Mr. Johnston and his associates are to be congratulated and supported.

No doubt both railroad managements and union leaders learned many valuable lessons in the recent shopmen's strike, at least this is greatly to be hoped. How thoroughly the International Association of Machinists learned its lesson is indicated, but not proven, by the experiment now in effect on the Baltimore & Ohio. We say indicated, but not proven, because the B. & O. experiment will not stand the test of

time unless the employees are educated toward a sympathetic understanding of management problems and management policies, and the management continues to meet the men, at least half way. In the past Mr. Johnston and his associates have urged opposition to management policies, attacked the personal character of railroad officers, and otherwise done their utmost to create an impassable breach between men and management. We say indicated, but not proven, because a careful perusal of Mr. Johnston's address reveals more than one glimpse of this old attitude. In his concluding remarks he makes allusion to the intelligence and courage of railroad managements who maintain a different labor policy from the B. & O. In his reference to operating statistics, we are inclined to think that he is not so much pleased at the good showing of some railroads as he is at the relatively poor showing of railroads which he regards as adversaries.

The writer is an employee of one of those railroads referred to by Mr. Johnston as maintaining a "different labor policy," and finds himself much interested in Mr. Johnston's allusion to the B. & O. experiment. Who pays the bill for this co-operative service? What is the cost to the individual employee? We assume, of course, that the cost is defrayed by the employees of the B. & O. through their union dues, and what this cost is we can only surmise, but from past experience we can estimate it from \$30 to \$50 per year for each employee enrolled. That is the first big question.

We are also interested in Mr. Johnston's assertion that, "In the task of positive co-operation in the railroad industry there can be no substitute for the genuine unions of railroad employees." In other words, the middle man, the consulting engineer, is necessary. This is a new definition of co-operation. We have been taught to think that co-operation means get-together between boss and man, and a pull-together toward a common end, but Mr. Johnston adds an interpreter, or a referee, and makes it plain that he wants that job. Perhaps he thinks that two gears cannot be made to rotate in the same direction without an idler between them. At any rate, his assertion is not borne out by a study of facts. Industry affords many instances where employers and employees have met together, created a basis of understanding, and operated for years with a high degree of co-operation and efficiency with no connecting medium other than the principles of fair play. The writer's own railroad has successfully worked out such a plan with its employees.

We have referred to glimpses throughout Mr. Johnston's paper of the old attitude. In his zeal to discredit his adversaries he has attempted to paint a picture of them, but instead he has painted a striking resemblance of his own organization. Observe the picture. Mr. Johnston says: "Who construes the right of suffrage? If the people, then the government is democratic. But if some king or autocratic agency levies the taxes, makes the appropriations, and says who shall and shall not vote, then any outward form of democracy is but a sham and a delusion." We leave it to the readers of the *Railway Age* who have followed the operations of the railroad labor unions, and especially we leave it to any former member of the Machinists' Union who happens to read these lines, if Mr. Johnston has not illustrated correctly, though unintentionally, conditions in his own order. If you think a labor union is democratic ask a cool-headed member who advocated reason and caution when the leaders were pulling for a strike. Ask him what voice he had in the levying of taxes and the making of appropriations. Ask him what happened when he asked for information about Grand Lodge expenses. Ask him how much he was promised in strike benefits before the strike of 1922 and how much he actually received after he walked out with trusting obedience when the zero hour arrived. Lastly, ask him about the democratic attitude of the union leaders in his town when he decided to go back to work, preferring rather to be a scab than a puppet.

MACHINIST.



The 19-Track Addition Gives the Erie a Complete and Modern Unit

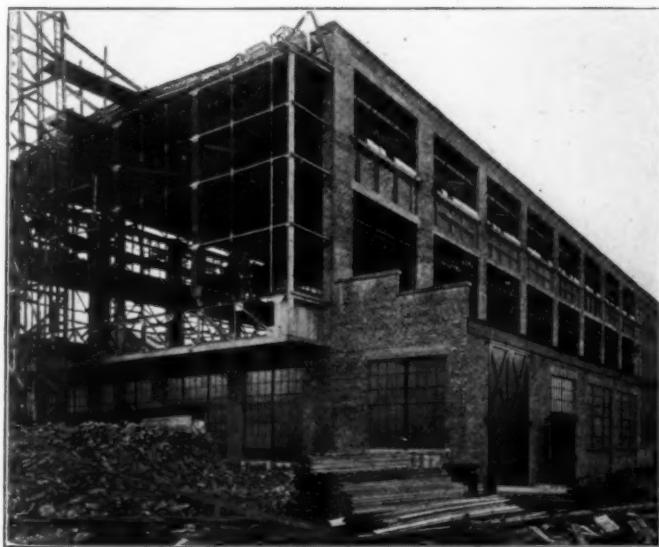
## Erie Completes Modern Addition to Hornell Shop

Gap Crane of 250 Tons Capacity Comprises Interesting Feature of Development

**I**N ORDER TO HANDLE its repair work more efficiently and to increase the capacity of its present layout, the Erie has recently constructed a transverse type locomotive erecting shop at Hornell, New York. The new structure con-

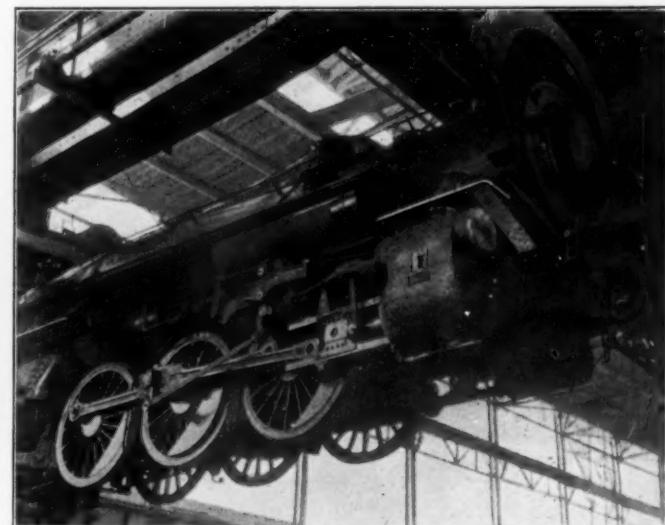
shop will be discontinued and its space, together with that of the old machine shop, utilized for a new unit which will be equipped with considerable new machinery.

While the facilities at Hornell serve primarily the Allegheny, Buffalo and Susquehanna divisions, they are also used by the system as a whole, power being brought in from all points because of its advantageous location. All classes of repairs are handled at Hornell, although in late years it



The Overhang Made Necessary by the Increased Wheel Base of the Crane

sists of a 19-track addition to a former 7-track building, which is being remodeled to conform to the new. An interesting feature of the layout is the installation of a 250-ton gap crane on a lower level and two 15-ton light travelling or messenger cranes, on an upper level, contrary to the usual arrangement. In connection with this work the old back

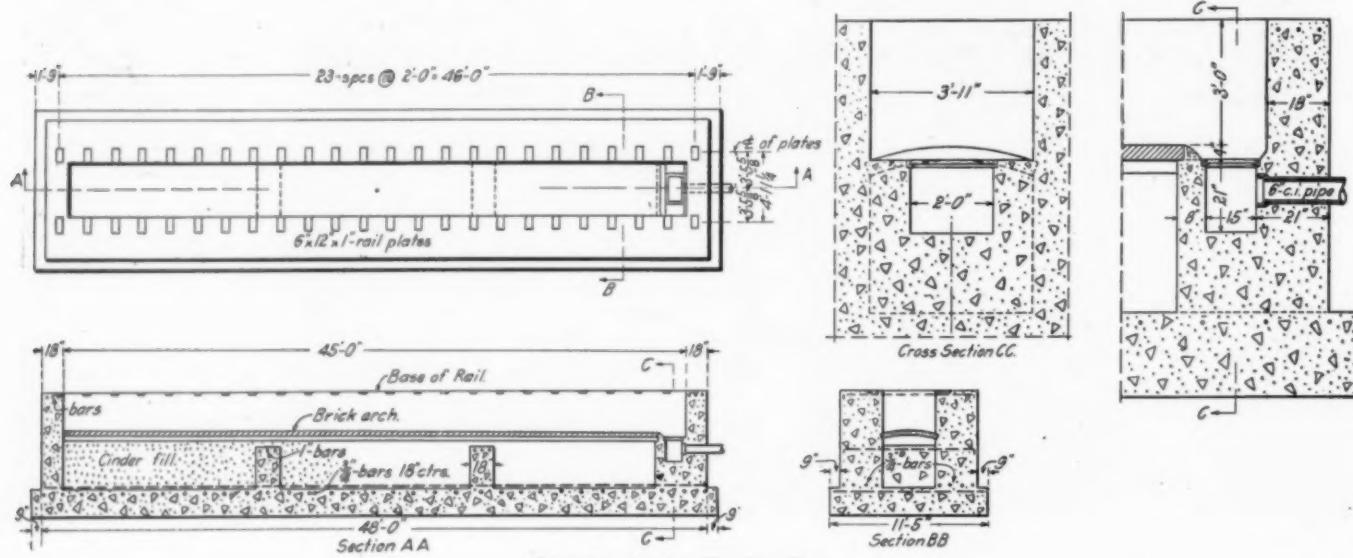


A Locomotive Hoisted Up Between the Gap Crane Girders

has been somewhat handicapped, both in regard to capacity and equipment. The old erecting shop contained 7 pits and an overhead 120-ton crane which gave lift-over service to these tracks and to a transfer table which ran in under the

structure itself and along the outer wall of the combined back shop and machine shop building. The transfer table served 12 tracks in the old back shop, and a firing-up shed located at the opposite extreme from the erecting shop.

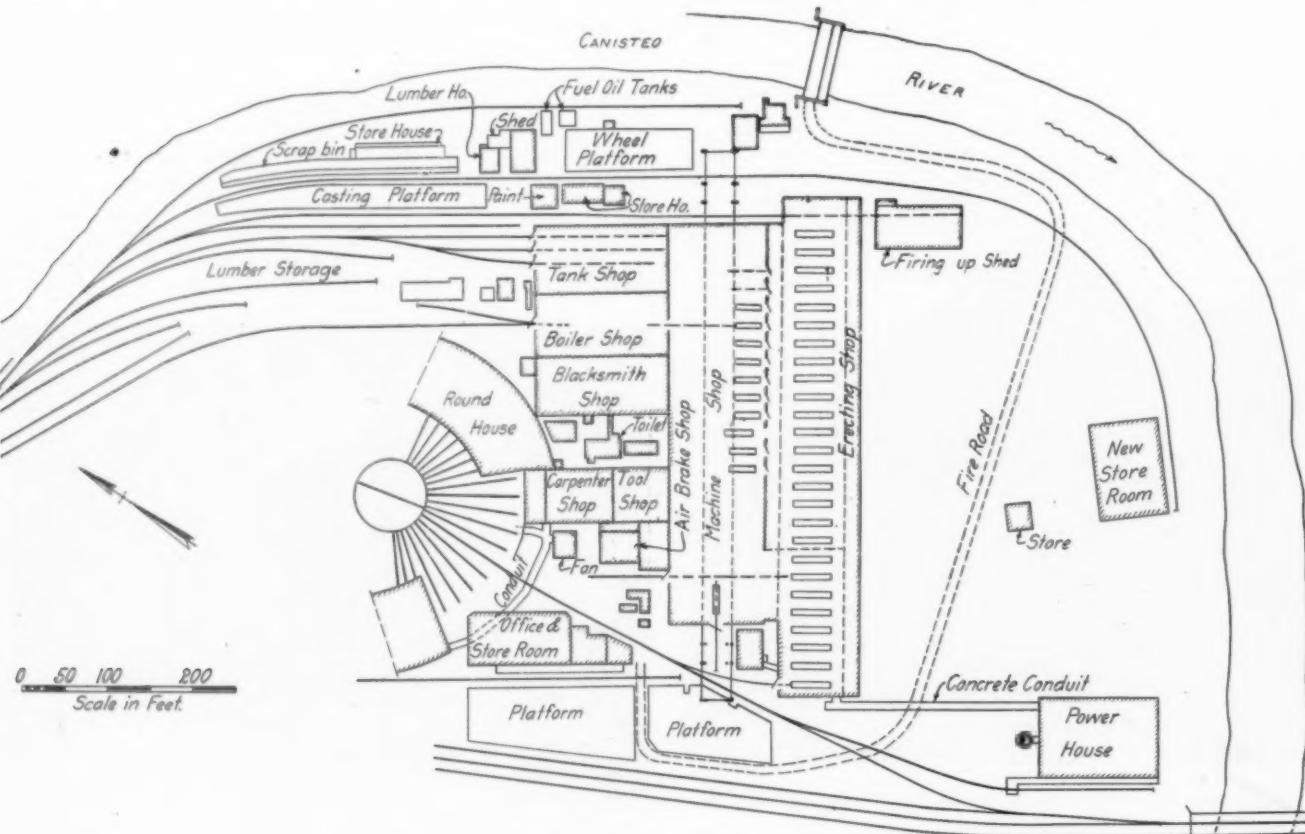
the power that could be handled in this manner was limited by the capacity of the crane. Owing to the increased weight of locomotives which were being brought to Hornell for repair, it was decided to revise the old structure in order to



Details of the Engine Pits

A locomotive to be repaired was brought in on the end, or No. 1, track, where it was stripped, after which it was picked by the crane and placed on the transfer table, which moved it to the back shop tracks when heavy repairs were

handle this class of power and at the same time to modernize the entire unit by the construction of a new erecting shop and by the expansion of the old machine shop into the space formerly occupied by the back shop.



Layout of the Terminal Facilities at Hornell

necessary. This movement in connection with the movements necessary for outgoing or repaired power, in addition to consuming a longer length of time than was thought necessary, was also complicated by the fact that the size of

The new erecting shop unit is practically a continuation of the old seven-track building, having the same clear span and elevation to the roof trusses. It occupies the area formerly taken up by the transfer table. It will be equipped with a

modern 250-ton double trolley, eight-motor, gap crane operating on a 24-ft. level and two 15-ton messenger cranes on a 44-ft. level. Under this arrangement it is estimated that the time required for the transfer of the equipment will be about one-seventh of what it was previously. This arrange-

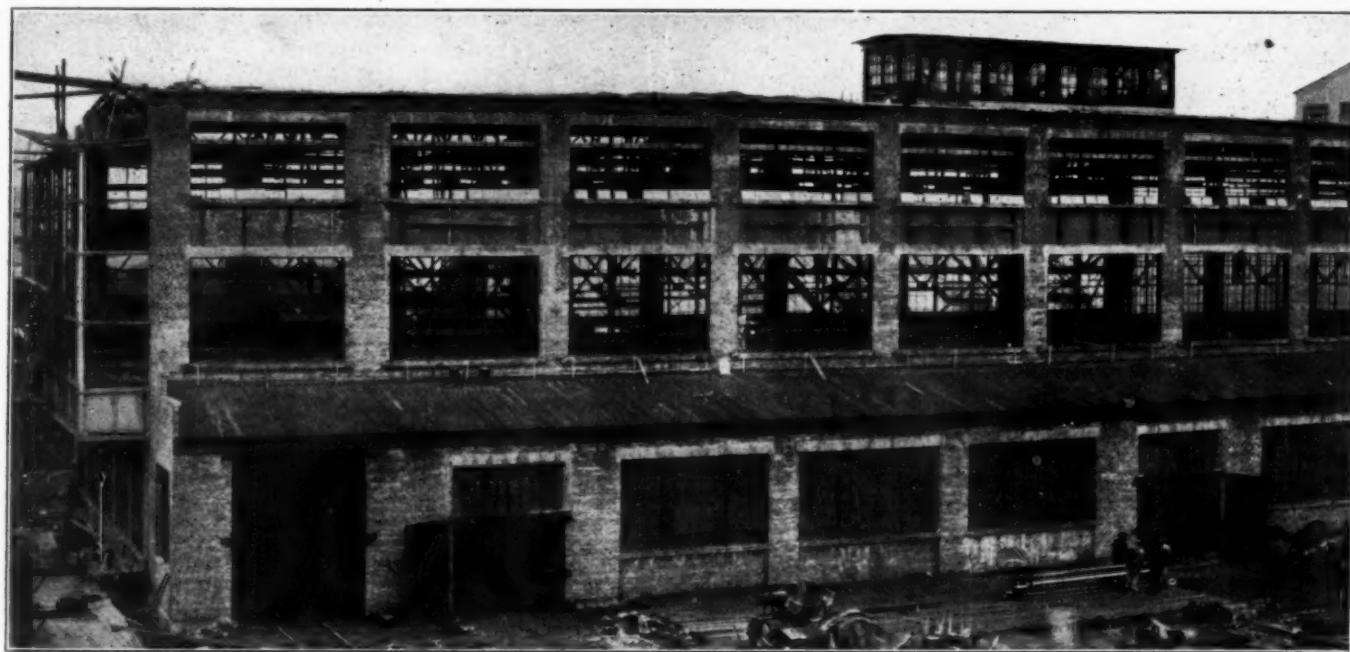
ment possesses several operating advantages from a mechanical standpoint, the major ones being that the crane that handles the very heavy loads is close to the work, and that the light cranes are always free to move the full length of



The Shop Is Substantially Constructed and Well Lighted

ment possesses several operating advantages from a mechanical standpoint, the major ones being that the crane that handles the very heavy loads is close to the work, and that the light cranes are always free to move the full length of

varying from 17 ft. 11½ in. to 19 ft. 2¾ in. This area will be utilized as a lean-to while a similar extension has been secured along the other side of the building by the construction of a shed roof section 20 ft. 4 in. wide. This latter



The Old Erecting Shop Was Rebuilt to Conform to the General Design

the erecting aisle, regardless of the position of the locomotive lift. There is also a material advantage to be gained by this type of installation in that comparisons of this form of structure and those formerly used show a saving of from 17½ to 22 tons of steel per pit.

The layout of the new structure, center to center of steel, is 586 ft. and is made up of one 24-ft. bay with an 8-ft.

extension will be continued for the full length of the old and new structures.

The steel roof trusses and the 15-ton crane runways are carried on the main columns which are spaced normally 21 ft. center to center longitudinally and 73 ft. 3¼ in. transversely. These columns are supported upon concrete pedestals carried down 16 ft. below the top of rail to a gravel

foundation. They measure approximately 12 ft. 6 in. square on the base and 5 ft. square on top. In addition to carrying the main steel columns these pedestals also support an inner line of columns capped by a girder 5 ft. deep which forms the runway for the 250-ton crane, 24 ft. above the top of rail. The runways for the 15-ton cranes are carried upon a bracket and girder construction riveted to the main columns 44 ft. 1 in. above the top of rail. Transversely the runway rails for the light and heavy cranes are 71 ft. 3 in. and 72 ft. 3 in. apart, respectively.

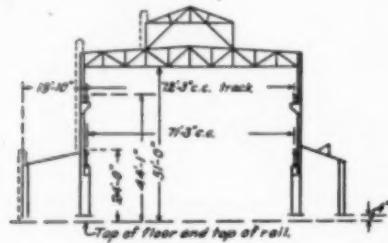
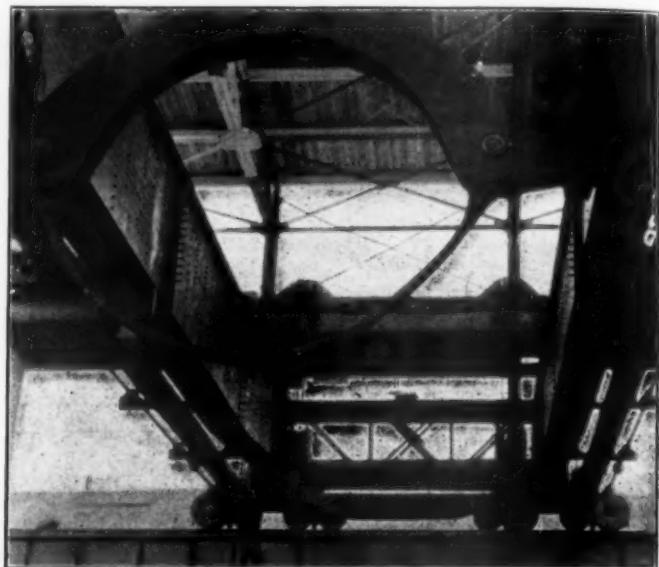


Diagram Cross-Section of the Erecting Shop

The foundations for the side walls of the lean-to extensions and of the end walls are carried upon light piers spanned by concrete beams. The walls are of brick and steel sash, of which there are three lines in the new addition and four in the old with pre-cast concrete sills and lintels. The roof structure consists of a series of steel trusses overlaid with tongue and grooved timber covered with tar and gravel. The total clearance from top of rail to bottom of trusses is 51 ft. Expansion joints have been provided at the center of the new unit and between the old and new.

end walls and by two intermediate 18-in. tie walls, the latter two being brought up only about 3 ft. above the mat. The over-all dimensions of the pit are 48 ft. long by 9 ft. 11 in. wide with an interior opening 45 ft. long and 3 ft. 11 in. wide.



A Center View of the Gap Crane Showing Hoisting Arrangement

The pit is floored 3 ft. from the bottom of the rail by a brick arch which is laid on a compacted cinder fill within the pit itself. The space in and around each pit is filled with cinders as a foundation for a 5-in. concrete sub-floor



The Messenger Cranes Are Above the Gap Crane

The pits under the tracks are of concrete and are of unusually heavy construction, brought about chiefly by the fact that the building was constructed on filled land. The excavation for the pits was carried down to gravel and upon this a reinforced concrete mat measuring 49 ft. 6 in. long, 11 ft. 5 in. wide and 18 in. thick was poured at each pit location. Pit walls 3 ft. thick were then poured upon this base and carried to the elevation of the bottom of rail or approximately 9 ft. above it. These side walls were tied together by 18-in.

a working floor of 2½ in. Kreolite wood blocks.

An interesting feature of the steel work occurred in the reconstruction of the old erecting shop to provide for the operation of the cranes over the full length of the combined buildings. Originally the shop had been designed for a 120-ton crane operating upon a runway of girder and column construction on a 40-ft. level. These runways were later reinforced to carry two 150-ton cranes, although no other change was made. When it was decided to utilize the heavier

crane a careful study of the old columns and runways was made. This study showed that the girders, as reinforced for the 150-ton crane, were sufficient for the increased load of the new unit, owing to a difference in wheel base between the two types of 10 ft. It was also found that, owing to the 16 ft. less column length required, the old sections could be used without any further changes than cutting them down to the proper height. It was, however, necessary to reinforce the main columns in order to have ample leeway for the addition of the 15-ton crane runways. This consisted chiefly of the riveting on of two plates on the outside face and one on the inside face of each column. A further change was necessitated by the increased wheel base of the 250-ton crane in order that it could be centered over the incoming or No. 1 track. This was met by the reconstruction of the end wall to give an overhanging bay 8 ft. deep across the full width of the building and extending from the bottom of the crane girder to the roof.

The main feature of the gap crane which the Erie has installed lies in the spreading of the crane girders and in arranging the crane trolley so that the locomotive may be lifted up between them. In this particular unit the spacing of the girders is 21 ft. 6 in. It is of the double trolley type for the main hoists and has a total lift of 30 ft. from high to low, with a capacity of 250-tons with the trolleys at 45 ft. centers. It is also equipped with an auxiliary hoist on each trolley, each having a capacity of 15 tons. Each main hoist is provided with two sheave blocks spaced 14 ft. center to center, which are attached to spreader beams, the front end hitch being a combination of a yoke and sling. The entire unit is carried on four two-wheel trucks at each end and is operated by eight 220-volt D. C. General Electric motors with dynamic control. Its chief characteristics are:

	Speed in feet per minute	
	Full load	No load
Main hoist .....	7½	...
Auxiliary hoist .....	25	...
Trolley travel .....	125	150
Bridge travel .....	200	250

The design and construction of the new erecting shop and the remodeling of the old has been carried out under the general direction of the engineering department of the Erie, R. C. Falconer, assistant to the president and chief engineer; C. H. Splitstone, superintendent of construction; F. A. Howard, engineer of construction, and A. Cook, resident engineer, and later A. B. Fowler, resident engineer, in direct charge of the field work. The contractors for the work were the Bates & Rogers Construction Company, Chicago, Ill., who let to the American Bridge Company a sub-contract for the steel structure. The 250-ton gap crane was installed by the H. K. Ferguson Company, Cleveland, Ohio, and was developed by that company in conjunction with the Morgan Engineering Company, Alliance, Ohio.

## Report of A. R. A. Committee on Automatic Train Control

THE COMMITTEE on Automatic Train Control of the American Railway Association, C. E. Denney (N. Y. C. & St. L.), chairman, has made an annual report, dated December 1, which is issued by Secretary J. E. Fairbanks as circular No. 2416. The first part of the report reviews the doings of the committee since its appointment in November, 1920, its activities having been carried on in conjunction with the Bureau of Safety of the Interstate Commerce Commission, until January, 1923.

The committee consists of 20 members, five from the operating division, five from the engineering division, five from the signal section and five from the mechanical division; and there is a vice-chairman from each division. These are T. H.

Beacom (D. & R. G. W.), A. M. Burt (N. P.), W. J. Eck (Southern), J. T. Wallis (Penn.). The secretary of the committee is G. E. Ellis, 431 South Dearborn street, Chicago.

The committee is thus divided according to the character of the membership and it is also divided into regional sub-committees consisting of all the members located in a given territory.

Since the last report, the committee has made observations on the Sprague apparatus and that of the National Safety Appliance Company. The results of the tests of the Sprague apparatus are already well known to the readers of the *Railway Age*. The committee's observations on the National apparatus, which is installed on the line of the Southern Pacific, near San Francisco, are summarized in the report as follows:

"During the joint inspection with two to three engines assigned to regular service and equipped with the apparatus, there was a total of 3,921 operations with a mileage of 2,016 on the test zone and 29,593 on the unequipped track. Since the period of joint inspection was closed, there has been a total of 6,325 operations with a mileage of 3,342 in the test zone and a mileage of 50,383 outside of the test zone.

"The joint observations with the Bureau of Safety were discontinued on this device on January 31, and a report was prepared and submitted to the committee and the Bureau of Safety. The commission has not published the inspectors' report. Conclusions were as follows:

"It is our opinion that the track magnets and the stop valve will give no particular trouble. The duplex valve, and more particularly the valve assembly, will function as designed provided the valve is given a high degree of maintenance and supervision at frequent intervals. Under freezing temperatures and severe winter conditions the maintenance and inspection will have to be more rigid as the clearances between parts as well as the dimensions of the entire valve assembly itself, are so small that unless all foreign matter is excluded entirely, serious trouble will occur. The cause of the false clear failures has not been determined to a point that relieves the valve stem of all doubt and insures the reliable operation of the device on all occasions. It is our opinion that more time will have to be spent on the adjustment and operation of the speed control relay in order to secure proper operation both above and below a definite fixed point."

"The reports of the committee's inspector are being analyzed and the secretary will give any member line upon request, all available information."

Reviewing the general situation, the report says:

"The monthly reports as requested in Circular 2355 are being received from the roads named in the order and these show that 29 roads have selected a device for installation. Sixteen of these have selected the continuous induction and 13 the intermittent induction type; no roads have reported as selecting any of the mechanical contact types except the three upon which installations existed at the time the order was issued. Experimental installations of intermittent induction type are in operation on five roads and continuous induction type on two roads.

"A number of the carriers have asked for a change of location and their requests have been granted by the commission. The commission's order specified the territory within which a passenger engine division is to be equipped. Our information indicates that 46 carriers have advised the commission as to the division selected. The divisions so selected comprise about 2,570 miles of single track road, and about 2,567 miles of multiple track road. At the hearings in Washington in the spring of 1922, 28 devices were presented, and this number was considered by the committee as comprising a new available list, although it was recognized that some of them would not meet the requirements. Since the last annual report, nearly 100 devices have been brought to the attention

of the committee and three or four have been considered suitable for adding to the available list, although the devices so added were known to the committee before the plans had been filed. In other words, during the past two years, no entirely new devices of which the committee had no knowledge, have been presented. With the additions above referred to, the list now contains 32 names, but owing to the fact that reports prepared by the Interstate Commerce Commission have rejected some of these and show that others lack development, the list actually available at the present time for test is very much smaller than that number. Further, for practical considerations, the number will be much further reduced leaving not more than a third of that number which any carrier would consider at the present time for actual installation.

"Considerable progress has been made in the development of certain devices, particularly the induction type, but the devices are still in the stage of early development as distinguished from the later stage of refinement which always follows the early development of any new signal and locomotive devices. It is, therefore, reasonable to conclude that the development of the apparatus in the next few years will render most of the apparatus now available practically obsolete.

"The three installations on steam operated lines are of the ramp type. The records of the committee indicate that 29 of the roads named in the order have selected a device and each has chosen the induction type, no roads having reported as selecting any of the mechanical contact types except the three upon which installations existed at the time the order was issued. A few lines have permitted short experimental installations of certain devices of the contact type.

"As heretofore stated, the order requires the installation of roadside apparatus on approximately 5,000 miles of road about equally divided between single and multiple track lines. It is not possible to accurately estimate the number of engines which will have to be equipped, for the reason that locomotive assignments are changed from time to time and a great many engines are now run over more than one division in freight and passenger service."

## Low Carbon Rails Show Less Transverse Fissures

By C. W. Gennet, Jr.

Manager, Rail Inspection Department, Robert W. Hunt Company, Chicago.

**C**ONSIDERABLE STRESS has been laid from time to time on the assumption that internal fissures in steel rails were more prolific in heats with the carbon content on the high side of the range usually permitted. In fact, various analyses of rails in which fissures have occurred have repeatedly shown that the carbon content was likely to be high, and as generally the higher carbons are associated with high manganese, the latter is also usually well up. Increasing the carbon content usually means decreasing the ductility. Increasing the carbon content in steel also renders it more susceptible to the whims of heat, and the higher carbon steels should therefore be heated with greater care to avoid overheating or burning, either of which may decrease the ductility to below the normal. Fissured rails generally seem to be lacking in ductility, and high carbon therefore may be a very important factor.

It is true that considerable variation frequently exists between the composition of a particular rail and the ladle test analysis of the heat from which it was rolled. Notwithstanding, the ladle test analysis is the usual basis for the acceptance of the heat, chemically speaking, and it is always

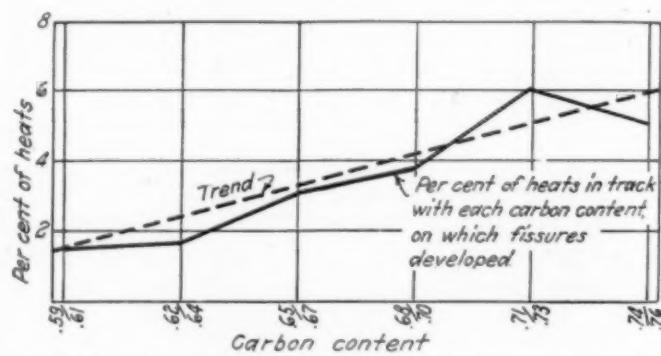
a matter of record. If the number of heats of rails in track containing each degree of carbon content was known, it would be an easy matter to establish the relationship between it and the heats on which fissures have developed.

Steps have recently been taken for the first time by two railroads to obtain this data, and a total of 11,003 heats in which 403 fissures have occurred has been carefully surveyed. The rails from these heats comprise about 4,100 track miles, and they were made at three different mills in a period of about 10 years. Probably more than 403 actual fissures have developed in this interval of service on these rails, but that is the number of cases known definitely. The results of the tabulation are:

Carbon content*	No. heats in track	No. fissures in these heats	Per cent of heats developing fissures
.59 - .61	468	7	1.5
.62 - .64	2,252	38	1.7
.65 - .67	2,631	82	3.1
.68 - .70	2,604	99	3.8
.71 - .73	2,170	132	6.1
.74 - .76	878	45	5.1

\*Manufacturer's ladle test analysis.

From these figures it is very apparent that the tendency for fissures to develop increases with the carbon content of the steel. Perhaps that is one reason why fissures are so much more rare in Bessemer steels than in open-hearth. The per cent of heats in track that have developed fissures is shown graphically, and it will be noted that the chances



Curve Showing Relation Between Carbon Content and Number of Transverse Fissures

of fissures developing in rails of .74-.76 carbon content on ladle test analysis is about four times as great as with .59-.61 carbon.

The increased liability of fissures in the higher carbon heats is apparently so outstanding as perhaps to make it worth while to revise some rules that have been laid down in certain quarters relative to the removal from track of all rails from heats in which fissures have occurred. Certainly with the risk four times as great for a fissure to occur in a high carbon heat as in a low, it does not seem entirely logical to lay down a broad rule aiming toward the removal of all suspicious rails. Of course, safety is of the greatest importance, but, based on the above, it would appear entirely proper to take more liberal advantage of scientific facts than has heretofore been done. For example, when a fissure develops in a heat which has previously shown none, the ladle test analysis of that heat could be ascertained easily. If it happened to show .75 carbon the chances are that another fissure in that heat may be forthcoming and perhaps the rails from it should be given special and immediate attention. On the other hand, if the carbon content proved to be .62, the risk of another fissure soon occurring is so lessened that the rails of the heat might be allowed to remain until several more fissures have developed in it.

# Equipment Trust Plan for Locomotive Terminals

## Kansas City Southern Purchases Improved Engine Terminal Equipment on a Rental Basis

MORE THAN ORDINARY significance should be attached to certain locomotive terminal improvements recently undertaken by the Kansas City Southern because of the financial plan under which these improvements will be acquired by the railroad. Briefly, this plan provides for payment for the improved facilities on a rental basis out of operating economies expected to result from their use.

The credit situation confronting many railways may not preclude the purchase of new cars and locomotives, but it has most effectually prevented them from making adequate provision for maintaining and operating this equipment at its highest state of efficiency and capacity.

From an investment standpoint the acquisition of new locomotives and cars has long afforded an ideal security. The underlying strength of the equipment trust lies in the fact that payments on equipment notes are always so much less than the current earning value of the locomotives and cars that no railway management whether solvent or in the hands of a receiver would be justified in relinquishing the use of the equipment in order to avoid this financial obligation. The equipment trust method of financing locomotive and car purchases has made it possible for the railways to obtain modern rolling stock that they could not otherwise have acquired. Lack of other facilities essential to the most efficient use of locomotives and cars has, however, made it impossible to secure increased efficiency in operation that otherwise would have been obtainable.

### Need for Such a Plan Evident

Bankers who have struggled with financial problems confronting the railways in recent years generally recognize the need for an investment plan that will enable the immediate acquisition of improved operating facilities other than rolling stock, but have been confronted with the difficulty of financing these individual improvements on mortgaged property. A typical instance of this situation is recited by the vice-president of a large Chicago bank and a member of the board of directors of an important mid-western railway. At a recent meeting of this board, plans for the purchase of locomotives costing five million dollars were approved while at the same time no means could be found for the immediate expenditure of two hundred thousand dollars required for locomotive terminal improvements urgently needed for handling this new motive power.

### Large Revenue Loss at Locomotive Terminals

As a result of the difficulty in obtaining funds currently needed for the acquisition of operating facilities other than locomotives and cars, terminal improvements have, as a rule, been badly neglected. This situation is not only contributing to a large direct loss in fuel, labor and deteriorating equipment as a result of inadequate and inefficient facilities, but is indirectly causing an even greater loss through limiting locomotives to too few hours of useful work each day. Motive power officers are generally aware of this situation and are repeatedly requesting improved facilities for meeting the constantly growing requirements of larger and more modern motive power. But in the absence of any plan for financing corresponding improvements in these facilities they have become so inadequate that in many instances the purchase of additional locomotives would not add appreciably to the capacity of the railway.

To meet this situation a method of financing locomotive

terminal improvements upon a rental basis has been developed by Spencer Otis, president of the National Boiler Washing Company in conjunction with Roland A. Crandall & Co., investment bankers. This is the plan under which the installation of a hot water boiler washout system and other locomotive terminal improvements have recently been provided for the Kansas City Southern at Pittsburg, Kansas, and to which a number of other railway companies are giving serious consideration in connection with contemplated locomotive terminal improvements.

### Financial Problem Has Limited

### Terminal Improvement

The installation of modern locomotive terminal facilities upon a basis that would enable the railroads to pay for these improvements with a part of the saving in transportation costs resulting from the first two or three years of their operation, is not new. Years ago, this principle was applied to the installation of modern coaling stations on a southwestern railway system. Due to inadequate facilities, the cost of coaling locomotives was abnormally high but there were no funds available for the improvement of these facilities. The problem was solved by a contractor who erected coaling stations at his own expense and agreed to operate them until paid for out of the profit from their operation at a charge per ton of coal handled which was half the average amount previously paid by the railway. The cost of handling coal with the new equipment was so much less than the expense of operating with the old facilities that the coaling stations were soon paid for. Under this arrangement the railway not only effected an immediate reduction in its operating expenses, but secured a permanent property improvement which led to further reductions in transportation costs as soon as paid for in this indirect manner. Similar arrangements have subsequently been devised to meet special conditions where no other means existed for financing the purchase of locomotive terminal facilities; but the plan, although admirably adapted to the necessities of the railways, has been limited in its application by a technical situation which makes the new facilities an integral part of property already mortgaged. This precludes the possibility of marketing notes secured by such separate facilities and confines the execution of the time payment plan to the individual capacity of the contractor to carry the investment.

### Plan May Include All Patented Devices

To develop an investment plan whereby sufficient funds can be enlisted to enable the railways to improve their locomotive terminal property immediately on a large scale and to pay for these improvements out of the reduction in operating expenses resulting from their use over a certain number of years requires some individual and tangible factor to which the investment is attached in order to make this a marketable security.

An original and distinctive feature of this new plan for financing locomotive terminal improvements which makes it a practical medium for the issuance of marketable securities is the basis for security of the investment. This is founded upon a proprietary interest in United States patents, but is applicable to all valid patents so that the scope of the plan embraces a wide range of possible improvements. The use of any facility embodying some integral patented feature may be controlled through the license to use this patent which can

be suspended in default of payments agreed to for the use of this facility without regard for its location on mortgaged property of the railroad.

In its application to the requirements of the railways, the locomotive terminal equipment trust plan takes the form of an agreement providing for the construction and installation of certain specified locomotive terminal facilities and their rental to the railway for a period of either two or ten years at a stipulated monthly rental. As evidence of the agreement to make those monthly rental payments, the railway company signs its promissory notes in the amount of said monthly payments. The lessee agrees to use and maintain the equipment in good order and repair during the period of the lease. The agreement further provides that should any of the notes be defaulted the right of the lessor to use the equipment shall be automatically suspended. While the technical basis for the security of these notes lies in a control of the right to use this equipment, the assurance that these note payments will not be defaulted is found in the claim that the payments are materially less than the current saving in operating expenses resulting from the use of the improved terminal facilities. As in the case of equipment trust notes, no railway management whether solvent or in the hands of a receiver would decline to meet a financial obligation when this would deprive the railroad of equipment that was currently saving more in operating expenses than the amount of the obligation.

#### Rental Notes for Terminal

##### Improvement Not Marketed

In executing locomotive terminal improvements under the rental note plan, these notes are given to the contractor as the new facilities are installed and in proportion to the progress of this work. Upon receipt of these notes they are sold to Roland A. Crandall & Co. or other fiscal agencies by whom they are used as collateral for the issuance of the banking firm's own notes. The fact that the railway company's notes are not placed on the market but are used as collateral for the obligations of the fiscal agency not only makes this plan adaptable to the promotion of a large number of minor terminal improvements, but is an important advantage to the railroad since it neither necessitates negotiations for the sale of its own notes nor leads to placing any additional notes of the railway company on the market at a time when this might conflict with or confuse other funding operations. Moreover, this arrangement is designed to place at the disposal of the railway company the funds required for locomotive terminal improvements whenever and in whatever amount needed without regard to market conditions that must be considered when the railway itself borrows money for such improvements.

When a railway borrows the money, market conditions frequently necessitate the loan being made months in advance of the time when the improvement work can actually be started or delay the progress of this work until it is convenient to arrange for the required funds. This, it is pointed out by sponsors of the new plan, should be borne in mind whenever the cost of providing cash for locomotive terminal improvements is compared with the final cost of acquiring these improvements on the rental plan. The interest charge on the cash investment should not be limited to the time that the facilities are actually in use, but should date from day that the money is actually borrowed or set aside for this purpose. As is well known, the railway companies are frequently required to deposit interest bearing securities long before the facilities for which they are required are actually operative.

#### Cost of Terminal Financing

The cost of providing capital to be invested in locomotive terminal improvements for which the railway pays on the

rental basis here described includes brokerage as well as interest on the bonds of the fiscal agent. Where the investment matures in two years under a rental agreement for that period the cost of financing is higher than when the rental agreement extends over a ten-year interval. However, as the railway company's rental notes are maturing at monthly intervals throughout the rental term it is said to be possible to maintain the carrying charge which must be absorbed by the railway company to less than 7 per cent for a period of two years on the actual cost of installing these improved facilities.

In many instances the loss occasioned by inadequate and antiquated locomotive terminal facilities is large and the monthly payments for improved equipment acquired on the two-year rental plan are expected to be not more than half the amount saved currently in operating expenses as a result of their installation.

Where the payment for improved locomotive terminal facilities is accomplished on a ten-year basis, the carrying charge to be absorbed by the railroad may be reduced to approximately 5 per cent for a period of ten years on the actual cost of installing the facilities. This low rate of interest reflects the progressive amortization of the rental notes. As these notes become payable, the money originally invested in the terminal equipment is gradually returned to the bankers so that the average amount invested is less than the original cost of the improved facilities. This illustrates the advantage of any plan that effects a permanent property improvement without a permanent increase in the funded indebtedness of the railroad.

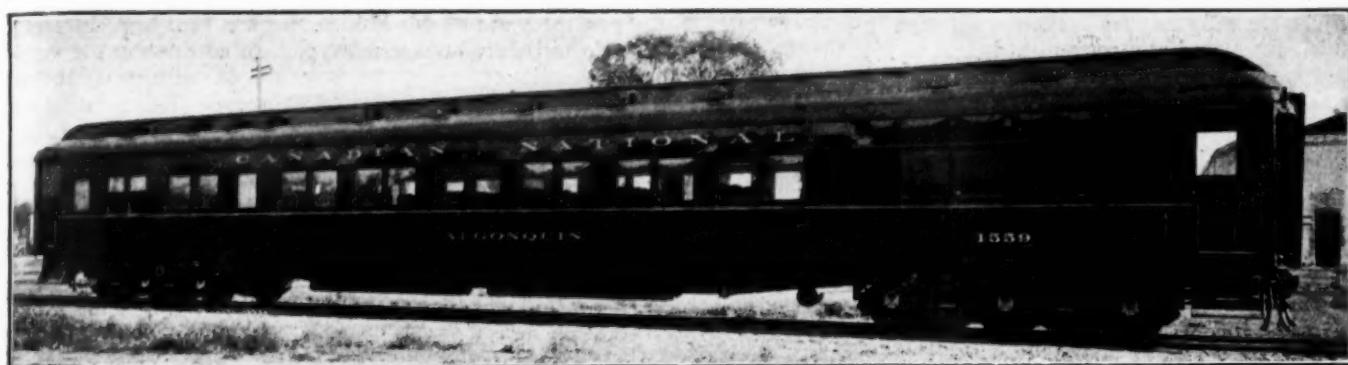
The locomotive terminal equipment trust plan provides in reality for acquiring equipment designed to reduce operating expenses to such an extent that the cost of this equipment can be absorbed in operating expenses and, at the same time, effect a net reduction in the cost of operation. The fundamental distinction between this method of improving railway property and the customary practice of borrowing money for the outright purchase of these improvements, lies in the fact that this latter practice tends invariably toward permanent increases in the fixed interest charges that must be sustained whereas the rental plan requires the railways to pay for the improvements out of operating expenses within two or ten years of the date they are installed.

In comparing the development of locomotive terminals upon the ten-year rental basis with the two-year arrangement, consideration must be given to the fact that the railways are not permitted to issue notes unless payable within two years without first receiving the formal authority of the Interstate Commerce Commission, so that the plan providing for the issuance of rental notes maturing within two years is apparently the more suitable method for the purchase of all locomotive terminal equipment except the more extensive facilities such as complete enginehouses, coaling stations, etc. When large terminal projects are to be financed on the ten-year rental basis, the undertaking would ordinarily involve lease of the railway company's land on which it was proposed to erect the new facilities and the subsequent rental of this leased tract together with the improvements to the railroad.

#### Rental Payments Chargeable to Operation

The Interstate Commerce Commission has given special consideration to the accounting features involved in this plan for financing locomotive terminal facilities and the director of the Bureau of Accounts has advised as follows:

"Under the effective accounting regulations of the Commission, payments by the carrier represented by the monthly installments to cover the notes should be considered in the nature of rent for use of a labor-saving machine, and as a royalty for use of patent rights on mechanical appliances used in preparing equipment in transportation service, and shall be included in operating expenses in primary account *Enginhouse Expenses* appropriate for the class of service in which the locomotive is engaged."



*One of the New Sleeping Cars Built by the Canadian Car & Foundry Company for the Canadian National*

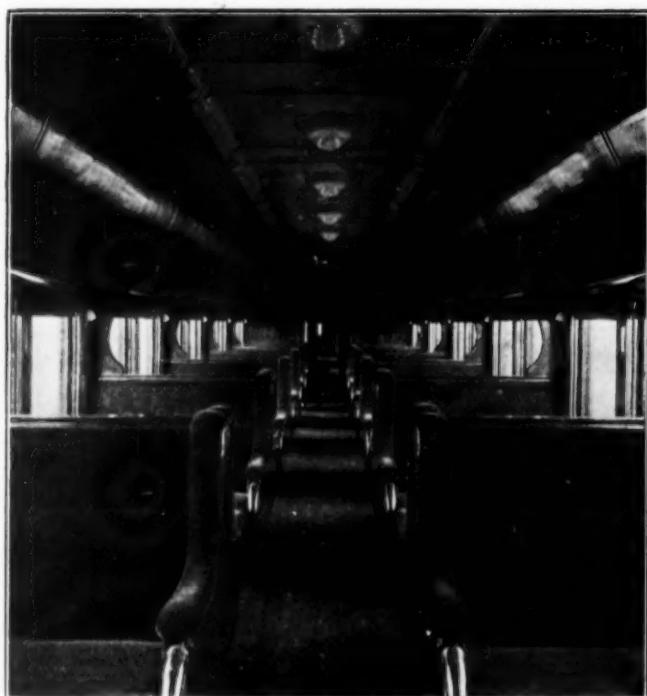
## New Sleeping Cars on the Canadian National

### Additional Length Used to Provide More Convenient Ladies' Dressing Room

THE CANADIAN NATIONAL received 30 sleeping cars for use in transcontinental trains from the Canadian Car & Foundry Company, Montreal, Que., during the latter part of last year. In the design of these cars special attention was given to the comfort of passengers going long

and convenience of the traveler. The floor plan is shown in the drawing. The cars are 75 ft. 6 in. long over the end sills, about 2 ft. longer than the older equipment, and are provided with 12 sections, which are 6 ft. 2 $\frac{3}{4}$  in. long overall and make up a 6-ft. 1-in. bunk. Except for the location of the ceiling lights, which are placed on the center line of the upper deck ceiling and in the transverse central plane of each pair of sections instead of in the planes separating the sections, as in the case of Pullman equipment, the arrangement of the sections does not differ materially in appearance from the old standard Pullman car.

Considerable departure is made, however, in both the men's

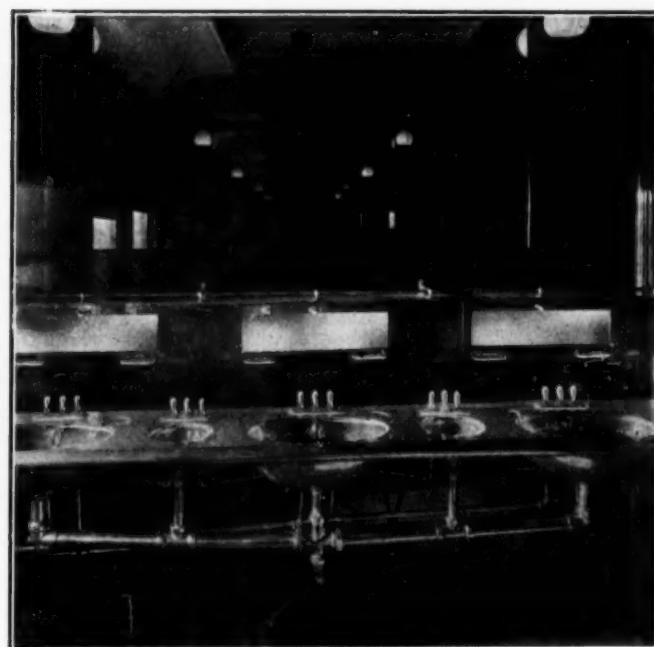


The Interior of the Canadian National Sleeping Cars—The Upholstery Is Green Plush Frieze

distances, particularly women travelers. The cars are of steel frame construction, and, with the exception of a wood and canvas roof, are finished in steel outside. Conforming to Canadian National standards, the interior finish is of wood. They are named after stations selected from the various sections of the system.

#### The Interior Arrangement

The most interesting features of the new cars are the floor plan arrangement and the special facilities for the comfort



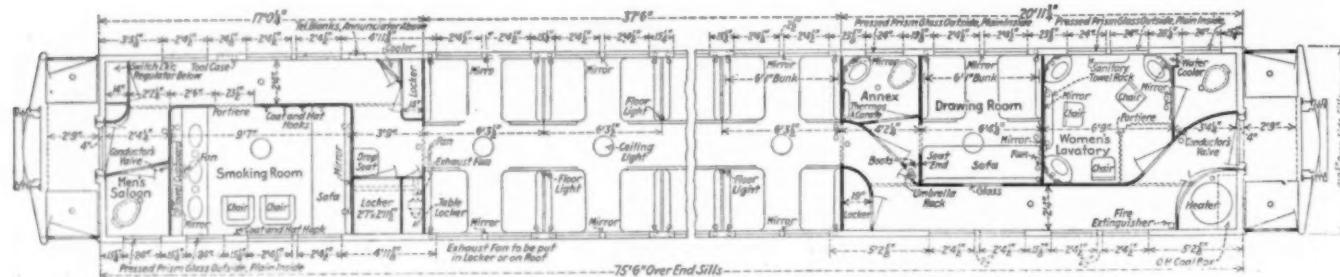
The Lavatory Arrangement in the Smoking Room

and women's toilet facilities, and in the case of the women's lavatory, the extra length of the new cars has been used to provide a comparatively large room, 6 ft. 9 in. long. One of the photographs shows clearly the type of facilities with which the women's dressing room is fitted. These include three wash basins, each in a corner of the room and each fitted with

adjustable wing mirrors. Towels are kept in sanitary cases, which are placed at a convenient height so that the top of the case may be used to hold toilet articles. The doors on the front of these cases are hinged at the bottom and are held closed by spring hinges. Each dressing room is provided with three boudoir chairs, and a curtain inside the corridor door insures complete privacy.

It is the practice on the Canadian National to place the

Half of them are of the Mudge Peerless type and the other half of the Utility honeycomb type. In addition to the automatic ventilators, each car is equipped with a 1/16-hp. Sturtevant fan operating at 1,750 r.p.m. The location of this fan is shown in one of the drawings. It exhausts air from the smoking room and also from the corridor adjoining the body of the car, moving a total of approximately 500 cu. ft. of air per minute.



Floor Plan of the New Canadian National Sleepers

entrance to the men's toilet in the corridor instead of in the end of the smoking room. This makes it possible to place the three wash basins across this end of the room and thus to provide room for two chairs next to the car windows, in addition to the customary sofa across the inner end of the room. One of the photographs clearly shows the lavatory arrangement in the smoking room. This consists of the three wash basins and two dental lavatories, above and back of which are three sanitary towel cases.

The principal improvement in the sleeping accommodations as compared with the older Canadian National sleeping cars is the adoption of separate curtains for the upper and lower berths. The upper berth curtains are arranged so that they may be fastened around a bar on the outer edge of the berth as a protection against the danger of falling out.

#### Outstanding Features of the Construction

The underframe is built up around fish-belly center sills and the side sills are of Z-bars and angles combined. In addition to the double bolsters, which are of the built-up type, there are two built-up crossbearers, spaced 28 ft. apart, at the ends of the deep portion of the center sills.

The vertical members of the side frame are of  $\frac{1}{2}$ -in. U-section pressings, as are also the carlines of both lower and upper deck. The wood carlines, to which the roof is directly secured, are bolted to the steel members.

Particular attention was given to the insulation. The insulation in the side walls is applied against the outside steel sheathing. It consists of one course of three-ply Salamander, next to the sheathing, and  $\frac{1}{2}$ -in. of Keystone hair felt. One course of Salamander is also placed against the portion of the inside wall adjoining the radiator pipes just above the floor. Inside the letter board immediately above, but not between, the windows, the Keystone hair felt has been replaced with  $\frac{1}{8}$ -in. Transite board, which is laid against two-ply Salamander.

The double wood floor is laid with a course of Neponset paper between the upper and lower boards. Between the wood floor and the steel floor sheets of the underframe are two courses of three-ply Salamander laid between courses of Red rope paper.

#### Heating and Ventilation

The cars are equipped with the Vapor heating system, thermostatic control, and two, three or five-pipe radiators. They are also equipped with a hot water system for use in case of emergency, should the cars be required to stand at isolated points where steam is not available.

Two types of ventilators were included in this lot of cars.

The cars are equipped with the Stone-Franklin electric lighting system.

#### Other Equipment

The cars are carried on Commonwealth six-wheel trucks with cast steel bolsters. The wheels are steel tired, 36 in. in diameter, with 5-in. by 9-in. journals. They are fitted with the American Steel Foundries clasp brake rigging, operated by Westinghouse LN equipment. Locking center pins are



Interior of the Ladies' Dressing Room—Adjustable Wing Mirrors Are Provided at Each Lavatory

used to hold the car body and trucks together in case of accident. The draft gear and buffering mechanism are Miner A-5-T friction type and Miner B-10 type, respectively.

The principal dimensions and data concerning these cars are given in the table:

Weight .....	169,400 lb.
Length over end sills.....	75 ft. 6 in.
Length over buffers .....	84 ft. 4 1/2 in.
Width overall at eaves .....	10 ft. 1 1/4 in.
Width of clearstory.....	5 ft. 11 1/2 in.
Height from rail to center of roof.....	14 ft. 2 in.

# Recapture Clause Sustained by Supreme Court

## Carrier Held to Be Only a Trustee for the Excess Over a Fair Return Received By It

WASHINGTON, D. C.

**H**OLDING that if the profit of the railroads is fair, assuming economical operation and reasonable expenditures, the sum of the rates is also profitable, and that if the profit is excessive the sum of the rates is also, the United States Supreme Court on January 8 sustained the constitutionality of the so-called recapture provisions of the Transportation Act, which had been attacked by the Dayton-Goose Creek Railway, as it had previously sustained the provisions of the act relating to the correction of discrimination caused by intrastate rates made by state authority and those authorizing the Interstate Commerce Commission to redistribute railway earnings by changes in the divisions of joint rates. One obvious way to make the sum of the rates reasonable so far as the carriers are concerned, Chief Justice Taft said in the unanimous opinion, is to reduce the profit to what is fair.

The case was before the Supreme Court on appeal from the district court for the eastern district of Texas, which had dismissed an application of the Dayton-Goose Creek for an injunction to restrain the Interstate Commerce Commission and the attorney general from enforcing an order of the commission directing the road to report what provision it had made for setting up a fund to preserve one-half of its net above 6 per cent on its estimated value for 10 months of 1920, which amounted to \$21,666, and for 1921, which amounted to \$33,767, and to remit the other half to the commission.

In the Supreme Court counsel for 19 roads had filed a brief as *amici curiae* attacking the validity of the recapture provisions in section 422 of the Transportation Act. (Section 15-a of the interstate commerce act.)

The Supreme Court, while affirming the decision of the lower court, did not, however, take the same position which it did, that the recapture of excess earnings represents an exercise of the taxing power of the government.

In delivering the opinion of the court Chief Justice Taft referred to recent decisions of the court in the Wisconsin Railroad Commission case and the New England Divisions case. In both cases, the decision says, it was pointed out that the Transportation Act adds a new and important object to previous Interstate Commerce legislation which was designed primarily to prevent unreasonable or discriminatory rates against persons and localities. The opinion continues:

"The new act seeks affirmatively to build up a system of railways prepared to handle promptly all the interstate traffic of the country. It aims to give the owners of the railways an opportunity to earn enough to maintain their properties and equipment in such a state of efficiency that they can carry well this burden. To achieve this great purpose, it puts the railroad systems of the country more completely than ever under the fostering guardianship and control of the commission which is to supervise their issue of securities, their car supply and distribution, their joint use of terminals, their construction of new lines, their abandonment of old lines, and by a proper division of joint rates, and by fixing adequate rates for interstate commerce and in case of discrimination, for intrastate commerce, to secure a fair return upon the properties of the carriers engaged.

### Broad View of Commerce Powers

"It was insisted in the two cases referred to, and it is insisted here, that the power to regulate interstate commerce is limited to the fixing of reasonable rates and the prevention of those which are discriminatory, and that when these objects are attained, the power of regulation is exhausted. This is too narrow a view of the commerce clause. To regulate in the sense intended is to foster, protect and control the commerce with appropriate regard to the welfare of those who are immediately concerned, as well

as the public at large, and to promote its growth and insure its safety.

"If Congress may build railroads under the commerce clause, it may certainly exert affirmative control over privately-owned railroads, to see that such railroads are equipped to perform, and do perform, the requisite public service.

"Title IV of the Transportation Act, embracing Sections 418 and 422, is carefully framed to achieve its expressly declared objects. Uniform rates enjoined for all shippers will tend to divide the business in proper proportion so that when the burden is great, the railroad of each carrier will be used to its capacity. If the weaker roads were permitted to charge higher rates than their competitors, the business would seek the stronger roads with the lower rates, and congestion would follow.

"The directions given to the commission in fixing uniform rates will tend to put them on a scale enabling a railroad of average efficiency among all the carriers of the section to earn the prescribed maximum return. Those who earn more must hold the excess primarily to preserve their sound economic condition and avoid wasteful expenditures and unwise dividends. Those who earn less are to be given help by credit secured through a fund made up of the other half of the excess. By the recapture clauses Congress is enabled to maintain uniform rates for all shippers and yet keep the net returns of railways, whether strong or weak, to the varying percentages which are fair respectively for them. The recapture clauses are thus the key provision of the whole plan.

"Having regard to the property rights of the carriers and the interest of the shipping public, the validity of the plan depends on two propositions.

### Effect on Property Rights

"First—Rates which as a body enable all the railroads necessary to do the business of a rate territory or section to enjoy not more than a fair net operating income on the aggregate value of their properties therein economically and efficiently operated, are reasonable from the standpoint of the individual shipper in that section. He with every other shipper similarly situated in the same section is vitally interested in having a system which can do all the business offered. If there is congestion, he suffers with the rest. He may, therefore, properly be required in the rates he pays to share with all other shippers of the same section the burden of maintaining an adequate railway capacity to do their business. This conclusion makes it unnecessary to discuss the question mooted whether shippers are deprived of constitutional rights when denied reasonable rates. It should be noted that in reaching a conclusion upon this first proposition we are only considering the general level of rates and their direct bearing upon the net return of the entire group.

"Second—The carrier owning and operating a railroad, however strong financially, however economical in its facilities or favorably situated as to traffic, is not entitled as a constitutional right to more than a fair net operating income upon the value of its properties which are being devoted to transportation. By investment in a business dedicated to the public service the owner must recognize that, as compared with investment in private business, he can not expect either high or speculative dividends, but that his obligation limits him to only fair or reasonable profit.

"If the company owned the only railroad engaged in transportation in a given section and was doing all the business, this would be clear. If it receives a fair return on its property, why should it make any difference that other and competing railroads in the same section are permitted to receive higher rates for a service which it costs them more to render and from which they receive no better net return? Classification of railways in the matter of adjustment of rates has been sustained in numerous cases.

### Rates Regulated Through Recapture

"It is argued that to cut down the operating profit of the stronger roads to a certain per cent, is not cutting or reducing rates, since the net income of a carrier has no proper relation to rates and can not be used as evidence of their reasonableness. There is nothing in the act requiring the use of the net return as evidence to fix a particular rate. As we have already pointed out, paragraph 17 of Section 15-a gives fullest latitude for evidence on such an issue.

"The state cannot justify unreasonably low rates for domestic transportation considered alone, upon the ground that the carrier is earning large profits on its interstate business, and on the other

hand the carrier cannot justify unreasonably high rates on domestic business on the ground that only in that way is it able to meet losses on its interstate business. But this conclusion does make against the use of a fair return of operating profit as a standard of reasonable rates when the issue is as to the general level of all the rates received by the carrier.

"The reduction of the net operating return provided by the recapture clause, is as near as may be, the same thing as if rates had all been reduced proportionately before collection. It is clearly unsound to say that the net operating profit accruing from a whole rate structure is not relevant evidence in determining whether the sum of the rates is fair. The investment is made on the faith of a profit, the profit accrues from the balance left after deducting expenses from the product of the rates, and the assumption is that the operation is economical and the expenditures are reasonably necessary. If the profit is fair, the sum of the rates is so. If the profit is excessive, the sum of the rates is so. One obvious way to make the sum of the rates reasonable so far as the carrier is concerned, is to reduce its profit to what is fair.

"The statute declares the carrier to be only a trustee for the excess over a fair return received by it, the excess never becomes its property and the carrier never has such a title to the excess as to render the recapture of it by the government, a taking without due process.

#### Fair Rates May Produce Excess

"It is then objected that the government has no right to retain one-half of the excess, since, if it does not belong to the carrier, it belongs to the shippers and should be returned to them. If it were valid, it is an objection which the carrier cannot be heard to make. It would be soon enough to consider such a claim when made by the shipper. But it is not valid. The rates are reasonable from the standpoint of the shipper as we have shown, though their net product furnishes more than a fair return for the carrier. The excess caused by the discrepancy between the standard of reasonableness for the shipper and that for the carrier due to the necessity of maintaining uniform rates to be charged the shippers, may properly be appropriated by the government for public uses because the appropriation takes away nothing which equitably belongs either to the shipper or to the carrier. Yet it is made up of payments for service to the public in transportation, and so it is property to be devoted to creating a fund for helping the weaker roads more effectively to discharge their public duties. Indirectly and ultimately this should benefit the shipper by bringing the weaker roads nearer, in point of economy and efficiency, to the stronger roads and thus making it just and possible to reduce the uniform rates.

"The third question for our consideration is whether the recapture clause by reducing the net income from intrastate rates, invades the reserve power of the states and is in conflict with the Tenth amendment. When the adequate maintenance of interstate commerce involves and makes necessary on this account the incidental and partial control of intrastate commerce, the power of Congress to exercise such control has been clearly established. The combination of uniform rates with the recapture clauses is necessary to the better development of the country's interstate transportation system as Congress has planned it. The control of the excess profit due to the level of the whole body of rates is the heart of the plan. To divide that excess and attempt to distribute one part to interstate traffic and the other to intrastate traffic would be impracticable and defeat the plan. This renders indispensable the incidental control by Congress of that part of the excess possibly due to intrastate rates which at present is indistinguishable.

"The act fixes the fair return for the years involved, 1920 and 1921, at 5½ per cent, and the commission exercised its discretion to add one-half a per cent.

#### How Valuation Is Involved

"We are relieved from considering the line between a fair return and confiscation because under the provisions of the act and the reports made by the appellant the return which it will receive after paying one-half the excess to the commission will be about 8 per cent on the reported value. This can hardly be called confiscatory. Moreover, the appellant did not raise the issue of confiscation in its bill and it cannot properly be said to be before us.

"It is also said in argument that value of the carrier's property upon which the net income was calculated was too low and was unfair to the carrier. The value of property, it is argued, really depends on the profit to be expected from its use and should be calculated on the income from rates prevailing when the law was passed which must be presumed to have been reasonable. The true value of the carrier's property would thus be shown to be so much higher than reported that the actual return would be not higher than 6 per cent of it and there would be no excess.

"We do not think that with the record as it is, such an argument is open to the appellant. It did allege that the values upon which the return was estimated were not true values, but it did not

allege what the true values were. This was not good pleading and did not properly tender the issue on the question of value. Under orders of the commission, the carrier itself reported the values of its properties for 1920 and 1921, upon which the excesses of income were calculated. The bill averred that a return of these particular values was required under the orders of the commission. This statement is not borne out by the orders themselves. They gave the carrier full opportunity to report any other values and to support them by evidence. This it did not do. We cannot consider an issue of fact that was primarily at least committed by the act of the commission, when the carrier has not invoked the decision of that tribunal."

## Freight Car Loading

WASHINGTON, D. C.

**R**EVENUE FREIGHT CAR LOADING during the week ended December 29 took a sharp drop, which is usual at the end of the year, but this time took the figures considerably below those for the corresponding week of 1922 for the second time during the year. The total was 615,431 cars, a decrease of 88,793 as compared with 1922, but an increase of 86,875 as compared with 1921. This makes the total loading for the 52 weeks ended December 29, 49,814,980 as compared with 43,207,561 in 1922, 39,323,158 in 1921 and 45,118,863 in 1920.

The summary of the weekly report compiled by the Car Service Division of the American Railway Association is as follows:

REVENUE FREIGHT CAR LOADING			
	Week Ended Saturday, December 29, 1923	1923	1922
Districts—			
Eastern .....	154,281	176,646	127,591
Allegheny .....	134,429	153,516	110,116
Pocahontas .....	21,902	25,184	15,768
Southern .....	82,926	96,959	77,847
Northwestern .....	75,827	90,369	68,339
Central Western .....	101,587	113,603	84,233
Southwestern .....	44,479	47,947	44,662
Total Western Districts.....	221,893	251,919	197,234
Commodities—			
Grain and grain products.....	31,946	45,492	29,821
Live stock .....	24,970	25,499	24,268
Coal .....	112,410	172,132	104,625
Coke .....	10,309	12,139	6,414
Forest products .....	36,025	44,714	31,491
Ore .....	8,183	8,701	4,812
Mdse. L. C. L. .....	182,952	177,143	169,442
Miscellaneous .....	208,636	218,404	157,683
Total, week December 29.....	615,431	704,224	528,556
December 22.....	877,257	826,312	666,605
December 15.....	899,522	879,052	726,074
December 8.....	913,774	909,174	741,341
December 1.....	835,296	840,412	741,849
Cumulative loading for year to date.	49,814,980	43,207,561	39,323,158

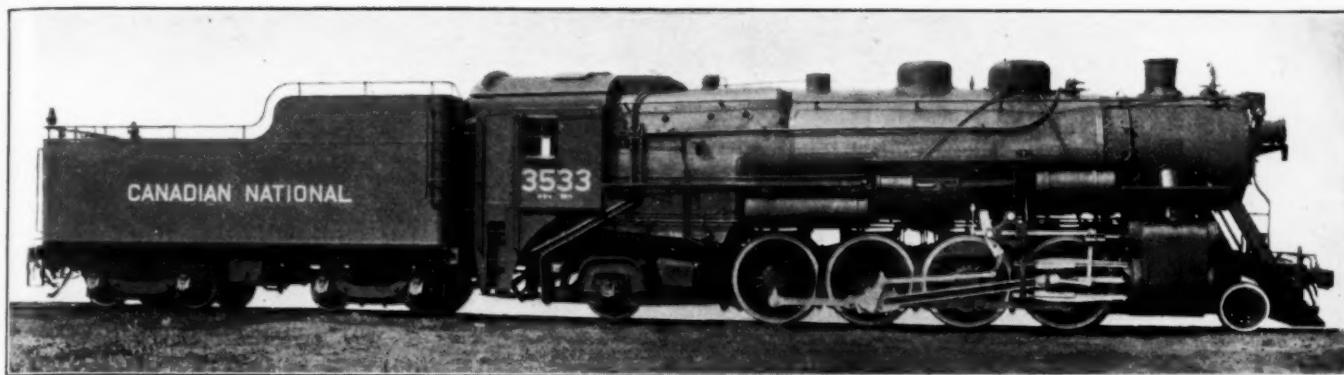
The average surplus for the week ended December 22 was 237,343 cars, including 115,071 coal cars and 96,353 box cars.

The railroads on December 15 had 10,873 locomotives, or 16.9 per cent of their ownership, in need of repair, an increase since December 1 of 301. Of the total 9,804, or 15.2 per cent, were in need of heavy repair, an increase of 227 as compared with the number on December 1. There were also 1,069, or 1.7 per cent, in need of light repair, an increase of 74 locomotives as compared with December 1.

There were also on December 15 3,992 serviceable locomotives in storage, an increase during the first fifteen days in December of 625 locomotives.

Freight cars in need of repair on December 15 totaled 148,262, or 6½ per cent of the ownership. This is a decrease of 7,364 compared with the number in need of repair on December 1, at which time there were 155,626, or 6.8 per cent. Of the total, 114,913, or 5.1 per cent, were in need of heavy repair, a decrease of 1,784 compared with the number in need of such repair at the beginning of the month. Reports also showed 33,349 in need of light repair, a decrease of 5,580 within the same period.

Since January 1 there has been a decrease of 60,565 in the number of freight cars in need of repair. On that date there were 208,827, or 9.2 per cent of the ownership.



A Recently Built Canadian National Mikado—Montreal Locomotive Works, Ltd.

## Some Notable Locomotives of Recent Design\*

Should Be Selected to Meet Special Road and Traffic Conditions—Three-Cylinder Type Promising

By James Partington

**T**HE LOCOMOTIVES OF TODAY are designed and built to meet the special requirements of the service for which they are intended to a greater degree than ever before. Inasmuch as these requirements are more exacting as the margin between gross and net operating revenues becomes smaller, motive power efficiency is now more essential than at any previous time in the history of railroads. Therefore, our up-to-date locomotives must, in the service for which they are designed, be capable of handling the largest tonnage that road conditions will justify; produce and deliver maximum drawbar horsepower at a minimum cost, and be of a design which will insure minimum maintenance for the service rendered.

To meet these requirements, it is necessary that the physical conditions of the road be carefully studied, the length of runs for the greatest economy in operation determined, all fuel-saving devices carefully considered and incorporated if a definite advantage is evident and the shop facilities for maintenance and repairs be not seriously overtaxed. In accordance with this brief outline, I will, in a very general way, set forth the characteristics and performance of several recent designs.

### Lightest Mountain Type Locomotive Measured by Horsepower Capacity

The Union Pacific had been operating its heavy passenger trains in the mountainous districts with Mikado locomotives. Wishing to improve the running time and have a greater margin of reserve power, the company designed a Mountain type locomotive for this service. Co-operating with the engineers of the railroad company, the American Locomotive Company built a sample locomotive, which was designated as road No. 7000.†

On account of the road conditions, it was essential that the total weight in working order should not exceed 345,000 lb. It was necessary at the same time to secure the largest possible boiler and cylinder capacities within this limit of weight.

While the rated capacity for 29-in. by 28-in. cylinders and 200-lb. steam pressure is 3,030 hp., this locomotive has

developed in actual road service an indicated horsepower of 3,500, one horsepower for every 98½ lb. of engine weight.

Fifty-five of these locomotives are now in service. Some of them are handling trains of 13 and 14 all-steel cars on the run between Cheyenne, Wyo., and Ogden, Utah, without change of engines. The distance is 484 miles with grades as high as 1.55 per cent westbound and 1.14 per cent eastbound. An average speed of 37 miles per hour is maintained.

The boiler is of the conical connection type with a liberal combustion chamber, 239 2¼-in. tubes spaced ¾ in. apart, and 48 5½-in. superheater flues. The distance over the tube sheets is 22 ft. The grate, 126 in. long and 96 in. wide, has an area of 84 sq. ft. The engine is stoker fired with a good grade of bituminous coal. The firebox crown and sides and the combustion chamber are made of one sheet, eliminating side seams or a weld across the crown at the junction of the combustion chamber. Compared with the cylinder horsepower, the boiler has a rated efficiency of 95 per cent and the grate an efficiency factor of 102 per cent.

The driving wheels are 73 in. outside diameter and the centers are of special cast steel with the sections made as light as possible, maintaining proper factors of safety, to keep down the weight. Special steels were used liberally throughout the running gear. The main and side rods, piston rods, driving and trailing axles and crank pins are of carbon vanadium steel. At 60 miles per hour, the dynamic augment is only 27 per cent of the weight on drivers and at 73 miles per hour, only 39 per cent. The steam distribution is controlled by the Young valve gear and the Alco power reverse gear.

The engine presents a clean cut outline in keeping with its other good points. Special attention was given to avoiding outside piping above the running boards.

The tender, which is of Union Pacific standard design, provides probably the greatest coal and water capacity for any passenger engine in service—20 tons of coal and 12,000 gallons of water.

### The Most Powerful Ten-Wheel Locomotive

A number of other roads have put Mountain type engines, which closely approximate the Union Pacific design, into service recently, showing that this type is steadily gaining in favor for heavy passenger service. We believe this type will

\*Abstract of a paper read before the Canadian Railway Club, Montreal, January 8, 1924.

†For a more detailed description, see the *Railway Age*, June 10, 1922, page 1325.

require less maintenance than the Mikado type if equal service is rendered.

The weight of passenger trains in suburban and local service has become so great on many roads that it is a common occurrence to see these trains hauled by Pacific type locomotives of large capacity. Believing that this service could be more economically performed by properly proportioned ten-wheel type locomotives, the Pennsylvania has recently built and put in service 40 engines\* which, I believe, are the heaviest and most powerful of this type in existence.

These locomotives have 24-in. by 28-in. cylinders, 68-in. drivers, a grate area of 55.12 sq. ft. and carry 205 lb. steam pressure. The total weight of the engine is 237,000 lb., of which 178,000 lb. is on the drivers. The evaporative heating surface is 2,862 sq. ft.; the superheating surface, 798 sq. ft., and the rated tractive force, 41,328 lb.

These locomotives have a tractive power only 3,000 lb. less than the most powerful Pacific type engines on the Pennsylvania, but weigh 70,000 lb. less. Although they do not have as large a boiler in relation to cylinder requirements as the Pacific type, they have ample steaming capacity for the relatively short runs on which they are used. Compared with the maximum cylinder horsepower, the boiler has a rated efficiency of 85 per cent and the grate has a factor of 96 per cent.

On account of their high tractive power, they are able to get away from stations quickly, making them especially advantageous for service requiring frequent stops. Some of these locomotives are hauling heavy trains on steep grades, meeting exacting schedules.

#### Fifty Per Cent Cut-Off Locomotives

Locomotives arranged for a maximum cut-off of 50 per cent, instead of the usual 90 per cent, are not an entirely new development, but they deserve special mention at this time because the Pennsylvania has received from the Baldwin Locomotive Works during the past year over 400 Decapod freight locomotives with this arrangement.

These engines have 30½-in. by 32-in. cylinders and a working pressure of 250 lb. The total weight in working order is 386,000 lb.; weight on drivers, 352,500 lb., and the diameter of drivers, 62 in. The distribution valves are arranged with an auxiliary port, which, for starting a train, permits a cut-off of 80 per cent. This port being restricted in size, its effect begins to diminish immediately after starting and is practically eliminated when the speed reaches 2½ miles per hour.

Compared with a locomotive of the same weight the piston thrust is greater by probably 25 per cent. This makes necessary larger rods, crank pins, crossheads, etc., involving an increase in the revolving and reciprocating weights and more counterbalance in the driving wheels. The effect of this increase in reciprocating weights is of little importance at slow speed, while the greater steam expansion obtained effects an important saving in operation.

Observations indicate a coal saving of 20 per cent in slow freight service. It is considered that for high speed passenger service a possible saving of 10 per cent would be neutralized by the negative effect of the 25 per cent increase in reciprocating weights. The most promising field, therefore, for this type of locomotive is in heavy slow freight service.

#### Three-Cylinder Locomotive on the New York Central

Owing largely to the success of the New York Central's Class K-11, 4-6-2 type engines in fast freight service (these engines having 26-in. by 26-in. cylinders, with 69-in. driving wheels), it was decided, for increased capacity, to try out a 4-8-2 type on the Mohawk division between Albany and Syracuse, a distance of approximately 140 miles, it being desired

to make this distance with heavy trains in eight hours' running time.

As the 4-8-2 type was at that time a new one on most roads and entirely so on the New York Central, it was decided to build a single engine and accordingly the first of the Class L-1 engines on this road, No. 2500, was designed and built by the American Locomotive Company in 1916.† The engine was designed for this particular service and its success was so marked that during the years of 1916 and 1917, 139 additional engines with only very minor modifications were built. They have been in constant service since that time and, owing to the geographical conditions of the division, are probably the hardest worked engines of this type in the United States. This, of course, is due to the fact that the division is practically level and the engines are worked with heavy trains and fairly high speeds over the entire 140 miles at their maximum capacity.

Since the receipt of these engines on the New York Central, service demands have, of course, been constantly increasing, finally reaching such a point in 1922 that it was decided to see what could be done toward increasing the capacity of this type for this particular service.

The railway then asked the American Locomotive Company for its recommendations with the understanding that one of these engines was to be returned to the American Locomotive Company and rebuilt to incorporate the recommendations decided upon. This was accordingly done and the engine, road No. 2568,‡ was rebuilt and shipped September 13, 1922, since which time most remarkable results have been obtained both in service as regards hauling capacity and also in fuel and water consumption.

The work done by this locomotive will compare favorably with the best obtained from any other engine having the same weight on the drivers. I might cite as typical performances that this locomotive has hauled trains of 8,000 to 8,500 tons over the division in less than eight hours.

The major changes which were made in the design were as follows: Substitution of three cylinders instead of two; addition of trailer truck booster, Elvin stoker and feedwater heater; substitution of type E superheater instead of type A, and an increase in tender capacity from 8,000 to 15,000 gallons.

The original engines were greatly handicapped by the small tank capacity and too frequent stops were required to take water; accordingly the tender capacity on this engine was nearly doubled, thereby obtaining much better service in this respect.

The change in the superheater and the addition of the stoker and feedwater heater greatly increased the maximum steaming capacity so that no difficulty has been experienced in this respect in service. In fact, the harder the engine is worked, the better she seems to steam.

The results in service have been so marked that it seems reasonable to make the assertion that a three-cylinder engine having the same weight on the drivers can be made to deliver at least 12 to 15 per cent more power than the corresponding two-cylinder engine. This increase is, of course, mostly due to the more even turning moment of the three cylinders as against two, and to the better effect of the exhaust in the stack.

#### Three-Cylinder Locomotive on the Lehigh Valley

Another three-cylinder locomotive has recently been built by the American Locomotive Company and has been placed in service by the Lehigh Valley. It has the same size cylinders, 25-in. by 28-in., and the same boiler pressure, 200 lb., as the New York Central engine. The design of the boiler, however, differs considerably; a Type A superheater is used, the size of the firebox increased and a combustion chamber

\* For a more detailed description, see the *Railway Age*, November 10, 1923, page 859.

† See *Railway Age*, December 28, 1917, page 1167.

‡ See the *Railway Age* for November 3, 1923, page 821.

applied. The grate area is 25 per cent greater. No booster has been used on this engine. A study of the performance should indicate just how much the use of three cylinders will add to the efficiency of a locomotive without the use of Type E superheater or the assistance of a booster. The preliminary trial runs have shown that it will haul a greater tonnage than two-cylinder locomotives of considerably higher tractive power. It is a very free steaming locomotive and gets its trains over the division in fast time.

The locomotive has hauled on the Buffalo division a train of 4,500 tons on a long grade of 21 ft. per mile, and indications are that it may be able to take a train of 5,000 tons over this section.

#### Feedwater Heaters and Boosters

A considerable number of the locomotives built last year were equipped with feedwater heaters, showing that there are many roads ready to install this equipment for the saving that can be obtained. I recall one case where a number of suburban tank locomotives were equipped with feedwater heaters because it was undesirable to increase the water capacity of the tanks, but the service required sufficient tank capacity to make the run without taking water between terminals. The economy in water consumption effected by the feedwater heater has given these engines a comfortable margin without increasing the capacity of the tanks.

The application of a booster usually adds from 9,000 lb. to 11,000 lb. to the tractive power of the locomotive. This

increased power is available at starting, when additional power is most needed. It is available also at slow speeds on grades where the engine might otherwise require a helper. What the booster can do has been shown in actual service many times and its use has been increasing steadily.

The locomotives that I have briefly cited in this paper are ones about which I happen to have some information. They may not be the most notable of the year just past; they are by no means the only notable designs of last year.

Here in Canada on your National Railways, a large number of Mikados of a new design with Belpaire fireboxes have been put in service and also a number of Mountain type locomotives\* of larger size. Reports on the performance of these engines would be of great interest and value—how their fuel rates compare with previous engines, whether they have met the expectations from an operating standpoint, etc.

If we can take away a few thoughts that will help us to further improve the engines that will be built this year or next, our evening will have been well spent. We will not find any one design of locomotive, any accessories—no matter how important or efficient—or any combination of these things that will give us the best locomotive for all roads or all conditions of service. Each railroad—oftentimes each division—has its own particular problems that have to be carefully studied and patiently solved individually. It is a part of successful railroad operation to find the correct solution.

\* See *Railway Age*, August 4, 1923, page 203.

## Report of the Director General of Railroads

### Claims Settled With Roads Operating 99 Per Cent of Mileage Taken Over by Government

WASHINGTON, D. C.

**C**LAIMS OF RAILROADS representing 99 per cent of the mileage taken over by the government, covering the federal control period, had been settled by the Railroad Administration by the end of 1923, according to a report submitted to President Coolidge on January 3 by James C. Davis, director general of railroads, which included a statement showing that the cost to the government growing out of federal control and the six months guaranty period immediately following the end of federal control was approximately \$1,696,000,000, including \$563,000,000 for the guaranty period. At the end of the year the Railroad Administration held assets amounting to \$645,161,765 cash and definitive obligations of the carriers, which is the approximate amount to be returned to the Treasury out of the \$1,790,000,000 which was appropriated for the Railroad Administration by Congress in 1918, 1919 and 1920. While the summary of progress made to December 31 in liquidating the affairs of the Railroad Administration is almost final so far as the settlements with the railroads are concerned, as the unadjusted claims amount to less than \$6,000,000, negotiations are still in progress with five Class I roads and there are some other claims consisting largely of those of employees, shippers and passengers, the great bulk of which, the report said, should be finally adjusted during 1924.

In making the settlements with the railroads, whose claims had been reduced during the progress of the negotiations from \$1,014,397,446 to \$769,974,783, there was paid or is to be paid in cash to the credit of the roads \$242,829,947 and there was received or is to be received from debtor roads in cash and interest-bearing obligations \$192,946,209 so that the settlements were accomplished for an outlay of only \$49,882,738,

which Mr. Davis refers to as the "net cost" to the government of the settlements to date. This refers only to the net cost since the termination of federal control, during which time much of the expenditures made by the government during the federal control period for capital improvements, amounting in all to \$1,144,681,582 and charged against the railroads, has been offset against the amounts due from the government to the railroads on account of unpaid compensation for the federal control period, depreciation, undermaintenance or similar items. The roads representing 99 per cent of the mileage which have made final settlements, have, therefore, paid for these capital expenditures in full either in cash or in interest-bearing obligations, and it is expected that some of the latter will be paid off very promptly as the roads are able to provide the cash by issuing bonds at a lower rate of interest than the 6 per cent charged by the government.

This liquidation, which is perhaps the largest, as applied to a single industry, ever undertaken, has been accomplished in practically three years, as but few claims were ready for adjustment before January 1, 1921.

The questions involved were entirely unique and without precedent, but notwithstanding there were many disputes, involving important questions of law and very large amounts of money, the adjustment has been carried on to date without any litigation in the courts.

January 1, 1924, marks the end of the tax on the United States treasury by the Railroad Administration for one of the very large responsibilities of the government undertaken as a war measure, and from this time on the United States Railroad Administration becomes an income producing asset rather than a liability. The interest on the obligations due

from the carriers and collection of outstanding accounts in the field will more than pay the overhead and complete the payment of all unadjusted claims.

Mr. Davis' letter to the President was as follows:

#### Report of Director General

I herewith submit a summary of the progress made to December 31, 1923, in liquidating "all matters, including compensation, and all questions and disputes arising out of or incident to federal control," as provided for in Section 202 of the Transportation Act of 1920.

The claims presented against the government, arising out of the 26 months of federal control of railroads, can be roughly divided into two classes: 1st. The claims of those carriers whose property was actually taken over and actively operated by the director-general. 2nd. All other claims.

#### I. Claims of Carriers

These claims represent the demands of all carriers whose property was actually taken over and actively operated by the director-general, and, in addition to railroad property, include the Pullman Company, coastwise and inland steamship lines, floating equipment used in harbors by railroads, sundry private car lines, elevators owned and operated by railroads, a number of electrically operated lines, and three water works companies owned and operated by railroads, furnishing water to municipalities.

The property taken over represented 241,194 miles of first main track, and, including additional main line, passing tracks, and switching yards and tracks, there was a total of 366,197 miles of track. There were 532 properties taken over and actually operated. In some instances a number of separate properties were operated as one system. There were 181 standard contracts executed, which included 313 separately owned properties. The property of 219 carriers was taken over and no contract made with the companies.

These carriers filed claims against the Railroad Administration in the total sum of \$1,014,397,447. During the investigation of these claims, sundry voluntary reductions were made, and the administration paid to carriers sums on account. This reduced the aggregate amount of the claims, as finally presented for adjustment, to \$769,974,783.

Up to December 31, 1923, \$763,106,521 of these claims had been finally adjusted, or definite tentative agreements made looking to final adjustment. The principal items involved in these claims were compensation, material and supplies, retirements, replacements, depreciation, maintenance of way and structures, and maintenance of equipment.

In making these adjustments there was paid or is to be paid cash to creditor roads \$242,828,947, and there was received or is to be received from debtor roads, in cash and interest bearing obligations, \$192,946,209, making the net cost to the government of the settlements to date (exclusive of overhead) \$49,882,738. This represents 6.537 per cent on the claims as finally presented for adjustment. These settlements cover 99 per cent of all mileage taken over.

Every railroad or other company whose property was actually taken over, presenting a claim, has been given a full hearing. All Class 1 roads have been finally settled with except five. Of these five, three are in the hands of receivers; one, an electric line, is being operated by its bondholders, and one company was not given a hearing until the last of December. Negotiations looking to an adjustment with these five companies are in progress.

The outstanding feature of this liquidation, now so nearly completed, is the fact that same has been accomplished without litigation. As each claim presented many items with large amounts in dispute, and the legal rights of the parties were wholly without precedent, this result could not have been accomplished without fair co-operation on the part of the representatives of the carriers in reaching amicable conclusions.

#### II. All Other Claims

These claims consist largely of the demands of third persons—employees and the traveling and shipping public. They are for loss and damage to freight, overcharges and reparation in freight transportation, personal injuries, and fire. There are also the claims of certain short line railroads, whose properties were never actually operated by the government, and were formally relinquished within six months from the commencement of federal control. There is also the liquidation of the American Railway Express Company's claims growing out of its relations with the United States Railroad Administration during the period of federal control.

In addition, there remains a final checking of what are known as the trustee accounts between the roads actually operated and the United States government, and the collection of outstanding accounts in the field.

Much progress has been made in disposing of these controversies, and the great bulk of them should be finally adjusted during the calendar year 1924. This adjustment will be made with a greatly reduced overhead, and, as shown in the succeeding paragraph hereof, the current receipts of the Railroad Administration should be more than sufficient to take care of all of these adjustments, and the expenses attending same.

#### III. Financial Condition of the Railroad Administration

As of December 31, 1923, the following is a brief summary of the finances of the United States Railroad Administration:

Balance unexpended appropriations to the credit of the Administration (this includes avails of equipment trust certificates and interest and principal payments on other obligations of carriers, reappropriated for liquidation purposes under Section 202 of the Transportation Act) .....	\$280,736,204
Balance of \$40,000,000 tentatively set aside to pay judgments, decrees and awards, from the revolving fund provided for in Sections 206 and 210 of the Transportation Act.....	13,527,596
Deposits in United States Treasury and banks.....	42,660,066
Total cash assets.....	\$336,923,866
<b>Obligations of Carriers Held by Railroad Administration</b>	
Bonds .....	\$28,626,300
Equipment trust notes.....	36,181,600
Notes of carriers, practically all secured by collateral.....	231,230,000
Notes to be taken, but not actually delivered, awaiting completion of details .....	12,200,000
Total carrier obligations.....	\$308,237,900

This makes the assets of the Railroad Administration, cash and definitive obligations of carriers, \$645,161,766.

The obligations of the carriers, taken and to be taken, aggregating, as above stated, \$308,237,900, all bear and will bear 6 per cent interest, interest payable semi-annually. As the important claims, requiring large cash expenditures, have been adjusted, the receipts from interest on these obligations and the collection of assets in the field should be more than sufficient to liquidate and adjust all of the outstanding claims growing out of federal control, including all overhead, and from January 1, 1924, the Railroad Administration will be an income producing asset of the government instead of a liability.

#### IV. Cost of Federal Control

At this time there can be stated with reasonable accuracy the cost to the government growing out of federal control and the six months' guaranty period immediately following the end of federal control, which is as follows:

Congress appropriated, to pay cost of operation and to provide funds for liquidation, a total of.....	\$1,750,000,000
Under Sections 206 and 210 of the Transportation Act, provision is made for the payment of judgment decrees, awards and reparation out of the revolving fund under the jurisdiction of the Interstate Commerce Commission. The expenditure in this matter is estimated at.....	40,000,000
This makes a total direct appropriation by Congress for the Railroad Administration of.....	\$1,790,000,000
The Railroad Administration should return to the Treasury, in unexpended appropriations, cash and definitive obligations of the carriers, as shown in paragraph III hereof, in round figures .....	645,000,000
This leaves the cost of federal control, including the liquidation of liabilities succeeding that period.....	\$1,145,000,000
To find the total cost to the government of federal control, there should be added to this amount the claims arising under what is known as the guaranty period, being the six months immediately following federal control. The Interstate Commerce Commission estimates that this will cost..	536,000,000
There should also be added the cost of reimbursement of deficit roads (short lines), under Section 204 of the Transportation Act. The Interstate Commerce Commission estimates this will cost.....	15,000,000
Making the total cost to the government of the 26 months of federal control and the 6 months' guaranty period.....	\$1,696,000,000
A detailed report of the matters above referred to, under the jurisdiction of the United States Railroad Administration, is in course of preparation.	

# Final Arguments on Consolidation Plan

## I. C. C. Devotes Week to Hearing Discussion by Counsel Preparatory to Formulation of Final Plan

THE INTERSTATE COMMERCE COMMISSION devoted this week to hearing oral arguments on its tentative plan for consolidating the railroads into a limited number of systems, after which, in the light of the vast mass of data submitted to it in hearings during the past two years, it will proceed to the formulation of a "final" plan in accordance with the provisions of the Transportation Act. Chairman Hall announced that Mr. Potter and Mr. McManamy, who have been reappointed to the commission by the President, but whose nominations had not yet been acted upon by the Senate, would sit with the commission during the arguments.

In addition to the oral arguments voluminous briefs have been filed with the commission bringing out the greatest variety of views both as to the general merits of the consolidation idea and as to the particular consolidations proposed in the tentative plan or by those who have testified regarding it. Arguments and briefs were presented by railroads, commercial organizations, state and municipal authorities and by individuals. Some of the railroads, particularly those whose present systems are proposed as nuclei of the proposed new systems, contented themselves with general approval of the plan or suggested only slight modifications, while in other instances, as during the hearings, most violent opposition was expressed to certain features. In general the arguments merely summed up or reinforced the position taken during the hearing of testimony.

### Jersey Central Controversy

The argument was opened on Monday with a renewal of the controversy over the disposition of the Central of New Jersey. Clyde Brown, of the New York Central, asked the commission to approve the system composed of the existing lines of the New York Central System, including the Ohio Central lines, Boston & Albany and Rutland, and also the Western Maryland, Central of New Jersey and the Catawissa branch of the Reading. He said the lines which the New York Central asks are not now profitable of themselves, but their addition to the New York Central System would make it an anthracite carrier as well as an important factor in the bituminous coal situation and enable it to establish a new short line between the lakes and the seaboard as well as to develop the facilities of the Port of New York. He said an additional line from Ashtabula to New York is necessary to relieve the density of the existing line, which runs through a territory so built up as to make further development almost impossible. This line, he said, should be under the control of one system. If the Baltimore & Ohio should acquire the Reading, the New York Central would be the only non-competitive line that could acquire the Central of New Jersey, whereas the commission's proposed Baltimore & Ohio system, including the Reading and the Jersey Central, would continue to violate the anti-trust act. With such a system, he said, the Baltimore & Ohio would have an incentive to develop the port of Baltimore rather than that of New York.

Mr. Brown gave a part of his time to Mr. Brubaker of Clearfield, Pa., secretary of the Lakes-to-Sea Highway Association, who spoke in support of the plan of the New York Central for acquiring the Central of New Jersey, on the ground that this would place the Clearfield district on a trunk line. Edgar E. Clark spoke for the New York Central in opposition to any dismemberment of the New York Central System, such as the provision of the tentative plan

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to divorce the Ohio Central lines from the system and place them in the Norfolk & Western system. The Norfolk & Western, he said, has evinced no desire to acquire the Ohio Central.

M. M. Stallman, city attorney of Newark, N. J., argued that the Central of New Jersey should be assigned to Group No. 1, New York Central, in the interest of the greater volume of traffic to be served, saying that the Jersey Central and its terminals afford the most feasible and economical facilities for the development of the Port of New York; also that the maintenance of existing competitive conditions as required by the Transportation Act would be best secured by such an assignment. Such an assignment, he also said, would effectuate the decree of dissolution in the Reading case. He was not in favor of the proposal that the Jersey Central should be operated jointly by the Baltimore & Ohio and the New York Central.

The Pennsylvania Railroad announced that it had no argument to present.

### Baltimore & Ohio Views

John J. Cornwell, general counsel of the Baltimore & Ohio, before beginning his argument asked George M. Shriver, vice-president, to explain a chart showing the terminal situation around New York. Mr. Shriver pointed out that if the New York Central should get the Central of New Jersey it would also get control of a large amount of freight traffic which now moves via the Baltimore & Ohio and the Central of New Jersey, and that if the Baltimore & Ohio is required to vacate the Pennsylvania passenger terminal in New York there will be 15 Baltimore & Ohio-Reading trains a day to run into Jersey City.

Mr. Cornwell said that the Baltimore & Ohio management had accepted the proposed grouping of the Baltimore & Ohio, Reading, Jersey Central and certain smaller lines without, however, the New York, New Haven & Hartford, which he understood was only placed in proposed Group No. 3 in an alternative way. The Baltimore & Ohio is desirous of doing everything within its power to conform with the act and to aid in the realization of the general consolidation scheme, and it may be biased in some degree by a belief that the proposed grouping, especially of the Baltimore & Ohio, Reading and Jersey Central, would be not only to the best interest of these lines, but likewise to the interest and benefit of the respective communities.

Taking up the question of the disposition of the Central of New Jersey, Mr. Cornwell said that the New York Central had greatly emphasized the subjects during the hearings, but said comparatively little about it during the argument, but that the "real" representative of the New York Central had appeared as a representative of the city of Newark. If the commission should allow the Jersey Central to go to the New York Central, he said, it would be creating a system to compete with the New York Central and then "cut off its feet," while it would give to the New York Central the greatest monopoly of terminal facilities ever known. He also commented on the fact that while President Smith of the New York Central had suggested that he would share the Jersey Central terminals with the Baltimore & Ohio, the representative of Newark had opposed such an arrangement.

"Perhaps nowhere in the country was the task of the commission more difficult," he said, "in the preparation of the tentative plan than in the suggesting of Groups Nos. 1, 2,

3 and 4. Here, in this territory, you found two great railroad systems, the Pennsylvania and the New York Central, gigantic properties both in mileage and in property investment, each with more than 12,000 miles of line and property investment far in excess of a billion dollars. The problem, as stated by Professor Ripley in his underlying report, was not to make these systems greater, but, if possible, to reduce them in size, for the task of making Groups 3 and 4 of equal strength and mileage with Groups 1 and 2 appeared to be a hopeless one. While the Baltimore & Ohio System, as it stands today, a competitor of the Pennsylvania and the New York Central, is third in the amount of gross revenue, its mileage and property investment may be roundly stated as only one-half that of the other two great systems. In view of this fact, it was but natural and logical that the commission should consider and suggest the grouping of the Reading and the Jersey Central with the Baltimore & Ohio in order that Group No. 3 might be brought as nearly as possible upon a parity with the Pennsylvania and the New York Central systems, though, even this would leave Group No. 3 much smaller than either of the others and it would still be far behind were the New York, New Haven & Hartford made a part of it.

"But, in addition to the important and necessary phase of balancing these systems so far as mileage and property investment go, it was logical, I might say inevitable, that the Reading and the Jersey Central be grouped with the Baltimore & Ohio for other and even stronger reasons.

"The opposition of the New York Central interests has been vigorously, frankly and, let me add, rather fearlessly expressed by the very able executive of that gigantic system, for, in speaking before the representatives of this commission in a recent hearing, he had the rather brutal courage to say that the main reason why he wanted the Jersey Central was because the commission proposed to give it to the Baltimore & Ohio, one of his competitors. He did a great deal of talking about a new through line to Chicago, about needing more facilities at the port of New York and all that, but everything he said on all those subjects was mere camouflage; it was simply thrown out as a smoke screen, for when he was shelled out on cross-examination he got down to brass tacks and told the real story. If you give Mr. Smith and the New York Central the Jersey Central with its terminal facilities at Jersey City, you have created the greatest railroad monopoly in and around the greatest city of America which could possibly be dreamed of. You will have become the exponent of Mr. Smith's theory: To him that hath shall be given, and from him which hath not shall be taken away even that which he hath.

"There is only one of Mr. Smith's camouflage pictures which appears to me to merit serious discussion, for his real purpose in demanding the Jersey Central is, as I have suggested, revealed in his blunt statement that he wants it because he does not want his competitor to have it, and that picture is his imaginary new through line from New York to Chicago. In one breath he tells us that he must have the Jersey Central and the Catawissa branch of the Reading so he can open up this route and through line as the increased business in the gathering territory of the New York Central necessitates. In the next breath and elsewhere in the record he admits that the maximum capacity of his lines east of Buffalo has not yet been reached. Evidently, the latter statement was made in the more serious vein, for if there were any necessity for the creating of this new through route and line, Mr. Smith and his assistants are too efficient in the railroad business to have failed to utilize it."

#### A Reading System

William L. Kinter, general solicitor of the Reading, contended that the consolidation of the Reading and Jersey Central, with the addition of the Lehigh & New England

and Lehigh & Hudson River, following to that extent the grouping proposed by the commission in its tentative report, will form a compact system of adequate financial strength serving a homogenous territory and offering advantages for the improvement of the through routes now existing and that could be formed for the handling of traffic between the New England states and the Southwest and the Southeast via the Shippensburg gateway. This grouping, he said, affords the only method that will certainly preserve the competitive situation resulting from the present open-door policy for all connections. Mr. Kinter said that the New York Central has asked for 201 miles, or nearly one-fourth of the main line mileage, of the Reading, some of which is the busiest in the United States, and that the idea of separating the Catawissa branch is utterly impracticable because this single track line is used as part of a double track portion, using the separate line of the Shamokin, Sunbury & Lewiston in the other direction. He also argued that Congress in enacting the law contemplated the grouping of railroads and not portions of railroads. To give this branch to the New York Central, he said, would cut off several connections of the Reading with other roads and result in a depletion of revenue which would not be permitted in any court of equity. This entire controversy, he said, arises from the tentative plan to assign the Reading and the Central of New Jersey to the Baltimore & Ohio, and the only way to terminate it is to approve the present situation and end the trusteeship of the Jersey Central.

A brief was filed on behalf of the Anthracite Coal Operators' Association, protesting against the consolidation of the Reading with the Baltimore & Ohio and contending that the Reading as at present constituted is free to render more satisfactory service to the anthracite industry. S. P. Leeds, representing various organizations of southern New Jersey, objected to any dismemberment or consolidation of the Reading and Central of New Jersey with either the Baltimore & Ohio or the New York Central, and appealed to the commission to adopt Prof. Ripley's alternative plan to consolidate the Reading with the Central of New Jersey. A brief on behalf of the mayor of Reading, Pa., and bodies of that state and adjacent territory, took the position that the vital interest of eastern Pennsylvania is in preserving the independence of the Reading and Jersey Central in their present relationship. A brief filed on behalf of Joseph E. Widener as trustee of the estate of P. A. B. Widener as the largest individual stock-owning interest of the Reading-Jersey Central system, said that a consolidation with either the Baltimore & Ohio or the New York Central would seriously impair the Reading service and earning power, and that the continued independence of the system is the only plan which will promote the object of the law. Arguments were also presented on behalf of the Merchants' Association of New York, the Pennsylvania Chamber of Commerce and Philadelphia trade bodies.

#### Port of New York Authority

Julius Henry Cohen, representing the Port of New York Authority, urged that the commission amend its tentative plan by including various conditions to safeguard the principle of open union terminals in the port district. The Port Authority, he said, considers the grouping of the Jersey Central with the New York Central as the more logical and natural plan. Mr. Cohen placed emphasis on the point that the laws for the carrying out of the port plan are of a later date than the Transportation Act and that the commission should consider its mandatory provisions in formulating its permissive plan.

#### Entire Plan Criticized

H. T. Newcomb, of the Delaware & Hudson, criticized the entire consolidation plan. He said that artificial stim-

ulus of consolidation is not less unwise than the artificial restraint upon co-operation and combination, which it has apparently superseded. There is no basis, he said, for any claim that consolidation would result in substantial economies or in any diminution in the aggregate cost of transportation and the proposal to make certain railways called strong support other railways called weak is economically unsound, and its completion in the manner proposed would prove disastrous.

#### New England Roads

The New England roads were taken up on Tuesday. E. G. Buckland, general counsel of the New York, New Haven & Hartford, said that if there is to be any consolidation, the New England system is desirable. In no event should the New Haven be consolidated with a trunk line or trunk lines, and the commission has power through the fixing of reasonable rates to make the New England group of railroads self-supporting. This being accomplished, he said, the problem of financing the New England railroads is solved. W. A. Cole, on behalf of the Boston & Maine, said that the trunk line plan for the New England railroads promises the fulfillment of the primary object of the statute—improving the transportation service through the creation of consolidated systems of adequate earning power, whereas the New England group plan ignores the primary object of the statute.

Counsel for the Lehigh & New England took the position that any consolidation of that road with the proposed New Haven system would not operate to the benefit of the public and that there is no legitimate reason for such a consolidation. The Maine State Chamber of Commerce and Agricultural League favored the plan proposed by Morris McDonald, president of the Maine Central, providing for a consolidation of the Maine Central and Bangor & Aroostook with the New York Central.

J. J. Storrow, chairman, and Bentley W. Warren, counsel of the joint New England committee, argued in favor of the New England system substantially as recommended by that committee and tentatively proposed by the Interstate Commerce Commission as System No. 7. Such a system, they said, would preserve existing competition, result in the development of the New Haven and the Boston & Maine and would best maintain existing trade routes and channels of commerce. This system, they said, is favored by public opinion and would compare favorably in size with other proposed systems and comply with requirements of the act relating to comparative cost of transportation. It was contended that there is now practically no local competition in New England and that potential competition with the Boston & Albany would not be affected by New England consolidation.

J. W. Carmalt and A. G. Gutheim, in behalf of bituminous coal operators located on the Chesapeake & Ohio and Virginian contended that proposed Systems No. 8 and 9 should be discarded and that the Ripley plan for the C. & O. should be adhered to. The plan for a Norfolk & Western-Sandusky system, they said, is defective and there is no good reason why the Norfolk & Western should, in order to reach Lake Erie ports, ally itself with a line of the Toledo & Ohio Central. Prof. Ripley's proposed System No. 8 should be maintained to meet a part of the New York Central system and the present Virginian should be attached to it.

George B. Elliott for the Atlantic Coast Line, Louisville & Nashville and Carolina, Clinchfield & Ohio spoke in favor of including the C. C. & O. in proposed System No. 11, which is built up around the Atlantic Coast Line and the Louisville & Nashville.

#### Western Roads

Walter Splawn, commissioner and counsel of the Texas Railroad Commission, urged important changes in the com-

mission's tentative plan, the most important of which are the elimination of strictly southwestern systems which would involve the abandonment of System 18 of the tentative plan, and allocation of the Colorado & Southern, Fort Worth & Denver City and Trinity & Brazos Valley to the Burlington system instead of to the Santa Fe. The southwestern properties, he said, should be distributed among the systems set up west of the Mississippi river, so that all such systems would be brought into and across Texas to the Gulf ports. Systems essentially local to the Southwest, he said, should be abandoned, because such an idea runs counter to existing geographical conditions and were suggested in the tentative plan as a result of mistaken notions as to the conditions and needs of the Southwest. The proposed placing of the Frisco, Katy and Cotton Belt in System No. 18, he said, is particularly obnoxious.

A brief filed on behalf of the Kansas Commission and commercial organizations of Lincoln, Sioux City, Omaha, St. Joseph, Atchison, Leavenworth and Kansas City opposed the general idea of consolidation, saying that the record does not show that economies are to be gained by consolidation. It is also contended that the proposed plan for the western district is based entirely on a faulty premise and that there is no necessity for extending the transcontinental systems to Chicago and St. Louis.

The Minnesota Railroad and Warehouse Commission objected to the tentative plan and stated that it does not recognize the validity of any law or any attempt on the part of the commission to nullify the power or control by the state over railroads chartered by it.

#### Southern Pacific

F. H. Wood, for the Southern Pacific, said that proposed System No. 17, with minor modifications, represents a logical consolidation and has met with general approval. However, the southwestern lines should be so grouped as to preserve existing routes and channels of trade and competition via the Southern Pacific and its present connections through northern Texas junctions which are destroyed by the tentative plan. The present joint ownership with the Santa Fe of the Northwestern Pacific and the Sunset should be continued.

#### Atchison, Topeka & Santa Fe

S. T. Bledsoe, general counsel for the Atchison, Topeka & Santa Fe, said that it is the wish of this company and its subsidiaries that the commission approve and authorize a consolidation of the properties of each of the affiliated subsidiary companies with the Atchison, Topeka & Santa Fe.

It is believed that the nucleus of consolidation should be existing system lines. He discussed various plans which have been proposed for the western roads, saying that the grouping proposed by President Holden of the Burlington would extend the Santa Fe group into a new and widely separated territory and is altogether illogical.

#### The Hill Roads

M. L. Countryman and Walker D. Hines filed a lengthy brief in support of the proposed consolidation of the Great Northern, Northern Pacific, Burlington and subsidiaries, and also a separate brief in opposition to the choice of the Great Northern rather than the Northern Pacific for separation from the Burlington and association with the St. Paul. The Great Northern is less adaptable, they said, to successful operation with the St. Paul than the Northern Pacific and more competitive with the Burlington, whereas historically the Great Northern relation with the Burlington has been much closer than the Northern Pacific relationship.

C. W. Bunn and D. F. Lyons for the Northern Pacific supported the commission's tentative System No. 14, Burling-

ton-Northern Pacific, as compared with the alternative of grouping together the Northern Pacific and the Chicago, Milwaukee & St. Paul. They said the commission could provide for joint ownership by the two systems of the Spokane, Portland & Seattle.

P. W. Coyle, traffic commissioner of the St. Louis Chamber of Commerce, opposed the commission's tentative plan, saying that proposed System No. 18 would largely eliminate railroad competition in the Southwest and the extension of Systems 18 and 19 to Chicago would destroy existing routes and channels of trade. "The Ripley plan is overloaded with Chicago," he said. He contended that the law should be amended by withdrawing the direction to the commission to prepare a plan so that it would "remove the constructive market corner that it has placed upon a large number of railroads for sale or merger purposes." Permissive consolidation should be developed along natural and logical lines, subject in every instance to the scrutiny and approval of the commission.

The Union Pacific, represented by H. W. Clark, E. E. Clark and H. A. Scandrett, filed a brief consisting largely of extracts from the testimony of President C. R. Gray and Chairman R. S. Lovett, who approved in general of a consolidation with the Chicago & Northwestern, Chicago, St. Paul, Minneapolis & Omaha, Lake Superior & Ishpeming and the Wabash lines west of the Mississippi river, if consolidations can be effected on acceptable terms. They opposed the plan proposed by President Holden of the Burlington.

#### Illinois Central

W. S. Horton and R. V. Fletcher, on behalf of the Illinois Central, Yazoo & Mississippi Valley, and the Central of Georgia, endeavored to convince the commission that they should not be included in the same system with the Tennessee Central, Seaboard Air Line and the Carolina, Clinchfield & Ohio. The system, they said, should include no railroads except those having a community of interest. A system should be created consisting of the Illinois Central, Yazoo & Mississippi Valley and Central of Georgia and their subsidiaries, together with the Gulf, Mobile & Northern, Gulf & Ship Island and Mississippi Central, which would confine the activities of the Illinois Central to its legitimate field and would not impair competition, but would preserve existing channels of trade and commerce. Under such a plan the Illinois Central would do its full duty in the matter of giving efficient service where short lines are now struggling to serve the public adequately.

## Proposed Subway Service to New Jersey Railroad Terminals

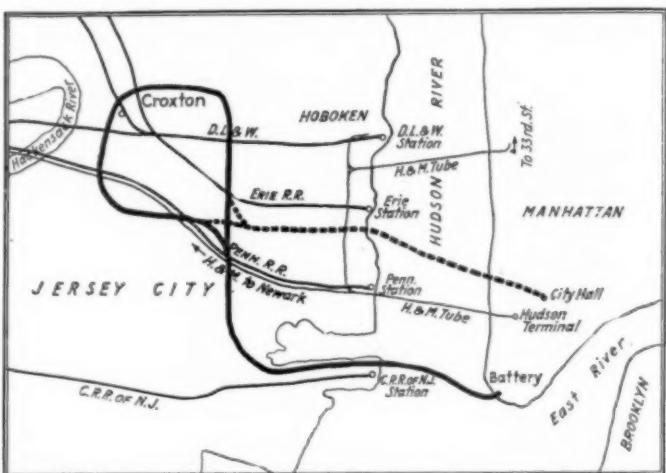
**T**HE TRANSIT COMMISSION of New York City and the North Jersey Rapid Transit Commission have made public a tentative plan for extending the subway lines of New York City beneath the Hudson river to New Jersey to connect with several railroads which handle suburban traffic but which terminate on the New Jersey side of the river.

At the present time commuters from the residential centers of northern New Jersey are carried to river-front stations on the Jersey side of the Hudson and are conveyed to Manhattan either by ferry boat or by the Hudson & Manhattan Railroad (the Hudson tubes), which latter serves the Hoboken terminal of the Delaware, Lackawanna & Western and the Jersey City terminals of the Erie and the Pennsylvania. The present facilities for crossing the river, both ferry and tubes, particularly the latter, are taxed to their capacity. The Jersey City terminal of the Central of New Jersey is

not served by the Hudson tubes and all of its passengers destined for New York must depend on ferry service.

The proposed subway extension involves the continuation of the east side Interborough Rapid Transit local line, which now terminates at City Hall, westward under the Hudson river and a part of Jersey City to terminate in a loop in a district called Croxton at the edge of the Hackensack river meadows, where the lines of the Erie and Lackawanna intersect. At this point, according to the tentative plan of the two transit commissions, a union station would be built at which both these roads would terminate their trains, instead of at the water-front as at present.

Likewise, the Interborough west side local line, now terminating at the Battery in Manhattan, would be extended to serve the Central of New Jersey and to a terminus at the Croxton loop. No details of this plan have been worked out as yet and it is not known positively that it will be feasible.



The Heavy Black Line Shows the Proposed Extension of the West Side Line and the Loop at Croxton. The Heavy Dotted Line Shows the Proposed Extension of the East Side Subway to the Croxton Loop

able. It is believed that the line would be remunerative in spite of the heavy construction costs involved because of the greater efficiency it would provide in the utilization of subway equipment on the local lines in Manhattan. The normal rush hour movement on these lines at the present time is southward in the morning and northward at night, with traffic running very light in the opposite direction at these periods. Extension of these lines to the railroad terminals in New Jersey would give them a counter-balancing rush-hour traffic in the opposite direction. Furthermore, the construction of a station at Croxton, it is pointed out, would permit the abandonment of passenger facilities now maintained on the water-front on both the New York and New Jersey sides of the river, which property is very valuable and could well be used for freight traffic.

Further study of this plan and other suggested improvements in passenger facilities for North Jersey commuters depends to a large degree upon the success of the North Jersey Rapid Transit Commission in securing sufficient appropriations from the state legislature to enable it to undertake careful preliminary engineering surveys. Members of the commission thus far have paid its expenses out of their own pockets.

Suburban passenger service in northern New Jersey has recently been made the subject of a study by the New Jersey State Chamber of Commerce and a great deal of interest has been aroused. Residents of New Jersey who commute to New York daily on the various railroad lines total approximately 200,000.

# The National Transportation Conference

## Efforts to Formulate a National Transportation Policy to Meet Needs of Future

**R**EPRESENTATIVES of the three branches of transportation—railways, highways and waterways—and of important commercial, industrial and agricultural interests, are meeting this week to participate in the shaping of a proposed national policy of transportation and practical measures for putting it into effect at the National Transportation Conference held at Washington under the auspices of the Chamber of Commerce of the United States, January 9, 10 and 11.

The conference was opened on Wednesday by Julius H. Barnes, president of the Chamber of Commerce of the United States. The Secretary of Commerce, Herbert Hoover, delivered an address on the subject of the transportation needs of the country. Walker D. Hines, former director general of railroads, discussed the rate making provisions of the Transportation Act. The remainder of the three days' meeting was to be given over entirely to consideration of the more important problems involved in the development of a national system covering all the agencies of transportation—railways, waterways and highways—from the viewpoint of all the interests directly affected by it.

What the transportation needs of the future will be and how they may best be met are the two underlying questions for which the conference is attempting to provide answers. Surveys have already been made by six special committees which have been at work under the auspices of the national chamber during the past year, studying different aspects of the transportation problem. They have submitted a number of findings and recommendations as a basis of discussion, but no limitation was placed upon the submission of proposals not included in the reports.

It has been estimated that the railroads alone will require during the next ten years \$7,870,000,000 to provide additional facilities needed as a result of the normal increase in traffic. Huge sums will be needed for highway building and the development of waterways and water transport. The financing of these requirements will be considered by the conference together with measures for linking together rail, water and highway transport in order that adequate and economical transportation may be provided to meet the needs of expanding commerce.

The wider use of motor transport to supplement the railroads in providing completed transportation, store-door delivery, and to facilitate the distribution and exchange of freight; the linking of rail with water transportation by the establishment of joint rates, and the development of passenger bus service as an adjunct to electric railways are some of the measures that have been recommended by the special committees and submitted to the conference for consideration.

In connection with the railroads financing, consolidation and the readjustment of freight rate schedules were to be discussed from the viewpoint of the different sections of the country and of the various interests concerned in transportation. The conference will attempt to find a common ground upon which there will be a complete agreement.

### Julius H. Barnes Urges Policy of Stimulation

Mr. Barnes said in part:

The Chamber of Commerce of the United States has no misgivings as to its rightful call upon those here, drawn from every line of industry and every section of our people, for the consideration of the problems of transportation, because that question is almost the supreme problem today.

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Transportation must, itself, maintain and advance the processes of industry which write themselves into individual employment and opportunity, and the national prosperity....

American methods in production and American methods in transportation marched hand in hand to make secure the standard of possession on the western farm, and there should be no place between the two for misunderstanding and antagonism. Production, both of farm and factory, stimulated and expanded by ready access to a great wide market of adequate buying power, is dependent at every stage on adequacy of transportation for the enormous volume of national production. The great, rising curve of living standards; the security of American health; the widening of American opportunity and the strengthening of American individual content and happiness—all these run parallel with the rising curve of the tonnage of commodity distribution. The problem is to visualize, into terms which every man can understand, the fact that transportation, adequate, ready, possessed of the means not only of present expansion but responsiveness to new methods and new devices, is the very structure on which their earning power and the possession of articles of necessity and comfort depend.

We need go back no further than the fall of 1922, scarcely a year ago, to show that broken and inadequate transportation has the same age-old effect on flexible price. For almost the entire month of October, in the fall before last, grain could be bought daily in Buffalo, brought that far by available water transport, at a price which would readily pay double the railroad tariff rate to move it the 48-hour trip to the Atlantic seaboard. It could not move because the railroad equipment was absolutely lacking, and the price available to the western seller fell sadly away from the seaboard and foreign market basis. In the same month, the price of farmer corn in Nebraska sank to under thirty cents per bushel, while at that very hour the dairy farmer of New England frantically and vainly bid far over transportation costs for the same corn, delivered in his bare storehouse. The lack of ready movement spells unbearable operating costs to the dairy farmer, and disaster to the western farmer. Yet there are those who claim to have the interests of the farm at heart who can see no strengthening of the farm position except through legislative reduction of rates, with curtailment of income and credit—the same publicly regulated inadequacy of income which had produced the condition of inadequate transport which scarcely more than twelve months ago cost the farm many times any possible reduction.

Transportation has, itself, stimulated the earning power of all other industry. Has it shared in equal opportunity with the other major activities of America? Fair play requires that we should inquire whether it has been justly treated, and self-interest requires that we shall eliminate such relation of unfairness, if there be any, in order that capital and investment may be relied upon to enter this field with increasing needs. It is suggestive of study when we find the increase in forms of wealth between 1900 and 1920 recorded in their major aspects as follows:

Farm values.....	281% increase
Manufacturing industries.....	398% increase
Railroads .....	93% increase
Total national wealth.....	295% increase

The time has come when America must divest itself of the

accumulated prejudices and passions in the treatment of transportation; when it must realize its dependence upon a continued and constant expansion, and plan such relations of government to this industry that it shall be able to serve the full measure of national progress. The time has come when all forms of transportation must study their proper relations to each other, in order to develop the full measure of service in the transportation structure as a whole. The time has come when national policies which affect railroads, through regulation, and affect as well water highways and motor highways, must be co-ordinated, to stimulate and encourage the expansion which will be required.

#### Address by Secretary Hoover

Secretary Hoover of the Department of Commerce congratulated the Chamber of Commerce and President Barnes on the initiation of the Transportation Conference and the very constructive reports of its sub-committees, saying he was proud to have had some part in its initiation. "Your committees have comprised members of the organized transportation executives, of transportation labor, of manufacturing shippers, of the farmers and business associations generally," he said. "We have thus had for the first time a joint consideration of our broad national problems of transportation by all of the most important economic elements of the community, that are primarily concerned with these problems. The sub-committees have spent many months in an exhaustive examination and have presented to you most thoughtful recommendations." He continued: "The formulation of long view national policies in transportation that will secure for us economical and adequate handling of goods is the first fundamental to our whole economic future. The solution of the problems in such policies is only in part a matter of legislation and governmental relations. They are in large part to be solved by initiative and voluntary co-operation amongst the business community. It marks a great step in our business progress when all the elements such as are represented in the sub-committees may come together and agree on solutions in important questions, and outline a method of co-operation by which they are to be attained.

"If I were to attempt to express my personal views of such national policies—stripped of secondary considerations—I would enumerate them somewhat in the following terms, and much of your sub-committee reports support such conclusions:

"1. Railway service under private ownership in order to secure the driving force of individual initiative in efficiency and development.

"2. Government regulation of fair rates and railway finance in order to protect the shipper and to give stability to honest investment of savings.

"3. Recapture of excess profits in order to allow rates which will assure operation and service from railways in less favored circumstances yet prevent unjustified profits from any particular railways.

"4. The earliest practicable consolidation of the railways into larger systems under conditions of maintained competition in service in order to secure greater economy in operation, assurance of development and lower rates, and greater stability in earnings.

"5. A basis of employer and employee relationship that will stimulate mutual responsibility as the first requisite to continuous service.

"6. Reorganization of the rate structure in order to secure a better adjustment of the burden between commodity, class, and less than car-load rates, most of which can best be accomplished after consolidation and consequent wider diversification of traffic.

"7. Co-operation between the shipper and the railways in order to secure a better distribution of traffic over the year and to avoid congestion of peak periods of car shortages.

"8. Definite development of relief in freight terminals, including co-ordination with motor truck feeders and distribution.

"9. Development of proper joint rates and service by water and rail transportation in order to relieve extension of railways where unnecessary and give the public the advantage of cheaper water transport.

"10. A comprehensive national plan of inland waterway development in substitution of hit and miss activities, with priority in development to rivers and canals where substantial traffic may be expected, including development of the St. Lawrence waterway, etc.

"Many of these questions are outside of legislation. They require continuous co-operation between the public and the transportation agencies. The accomplishment of some of them implies supplemental legislation or amendment to the present acts.

"There are four of these questions to which I should like to particularly refer. That is, co-operation among the business public to secure better annual distribution of traffic; freight terminal development; the consolidation of the railways and the railway labor problem.

"During the past year we have seen the inauguration of the policy of regular local joint conferences between railway executives and shippers' organizations. These conferences have cleared up many points of conflict and brought about much better understanding both of the problems of the shippers and of the railways. We have also had an extensive and successful drive for local co-operation of shippers with the railways which has contributed to the handling of the largest transport movement of our history. Much was accomplished by this co-operation in the more rapid loading and discharging of cars, the laying down of coal supplies during the slack season and thus avoidance of car shortage in fall peak and numbers of other helpful results. These efforts, together with the great initiative and ability of the railway executives marks 1923 the first year for a long time when we have had an extremely high level of business activity and at the same time have not suffered tremendous losses from car shortages. The co-operation itself has created a much better understanding of railway problems by the shipping public.

"I believe it is important that these voluntary co-operative efforts should be even more definitely organized than at present and established on so systematic a basis as to make them a part of our whole transportation fabric. One field for extension of such organized co-operation is with the fruit and vegetable growers' associations in the better handling of perishable goods and refrigerator movement generally.

"One of the most difficult problems in the future development of transportation is the railway and water terminals. The expansion of terminal facilities at our larger centers in the next 20 years will be required to a degree that seems almost hopeless with the present methods of terminal distribution and collection. Nor is the problem one solely of increased trackage and shed facilities. It is a problem that affects congestion in the streets and ramifies in a hundred directions in our municipal life. The experimental work being carried out in terminal distribution by co-ordination with motor truck service, the possible invoicing of goods for store delivery and collection, the establishment of distribution terminals outside congested areas for this purpose—all give such promise as warrant a definite program of constructive experimental development. I am in hopes the conference may see its way to establish a thorough testing out of these alternatives in terminal expansion and I will be glad for the Department of Commerce to contribute in any way that would seem desirable to you.

#### RAILWAY CONSOLIDATIONS

"Your committee reports furnish the most convincing reasons for consolidation of the railways into larger systems. The very reasons given are full warranty for its earliest possible consummation. One reason of urgency is that the weak roads are unable to undertake their proper share of extended facilities and the strong railways can not carry the burden forever. The present act resting as it does upon purely voluntary action is not likely to result in rapid action because

of the multiple difficulties in negotiations between members of the groupings to be indicated by the Interstate Commerce Commission, the intense complexities of security priorities, difficulties of determining relative present and prospective values—questions of individuality and the complexities of state and national regulation and many other problems. The President has indicated in his message to Congress the necessity for some more definite legislation to assist in this direction. Wholesale compulsory consolidation, even if it be constitutional, is fraught with such financial and technical difficulties as to be almost impossible. On the other hand, the consolidations can be greatly stimulated and expedited.

"For those railways who can not get together readily, I believe we should have provision for optional federal incorporation and the creation of organization committees for each proposed system including public representatives.

"If the consolidations were formulated by such committees (where they are not otherwise effected) upon the basis of exchange of stock or securities in the consolidated corporation directly to the individual stockholder of the component companies it would at once enable the solution of many questions of relative value by the exchange of different descriptions of securities. Consolidation plans under such auspices should inspire such confidence as to be unlikely to fail of majority exchange, and the committees should be given authority to compel exchange of minority stock or security holders and of minority roads in a group on behalf of the consolidated corporation. Such a plan would enable account to be taken of relative present earning value, relative prospective values of market values for securities and to keep capitalization within the I. C. C. valuations. It would also permit of ownership of some roads by two systems and of consolidation of some terminals by exchanges of securities. Such a procedure would accord with experience and permit of full protection of the public interest and of the equitable treatment of the various security holders.

#### RAILWAY LABOR RELATIONS

"The reorganization of the Railway Labor Board is one that has had some discussion with your sub-committees. The President has suggested the importance and the desirability of some agreement upon this question as a basis for amendment to the act. The present set-up of labor adjustment has not given entire satisfaction and in a considerable degree this is due to inherent faults in the construction of the board and in its authorities.

"We have in this board confused four different functions in labor relationship. The board has in parts the scenery for collective bargaining, for arbitration, for conciliation, and for judicial determination. Whatever change is made in the machinery to solve these relationships, the changes should if possible be constructively developed by the railway employees and executives themselves, plus, perhaps, the assistance of independent persons who represent the public interest.

"I am not despaired that a patient and painstaking conference of this question among those primarily concerned would not contribute to its solution. It would certainly be of great assistance to Congress itself if some such service could be performed in advance of the time that Congress will need give consideration to it.

"I am aware that both sides have given it much thought and discussion. The railway employees, and to some extent the railway executives and some leaders in Congress have made suggestions. I have the feeling that your conferences have made such progress in finding common ground for initiating policies in many directions that it would be worth while making an effort to find some agreed basis for settlement of this most difficult question also.

"I feel you have already shown that it is possible for co-operation among our great interested groups in finding common ground for constructive action. There are great

opportunities to public helpfulness in these conferences and the whole administration wishes your further deliberations full success."

#### Walker D. Hines Urges Budget Principle in Dealing With Railroad Rates

An abstract of Mr. Hines' address follows:

As assistant director general and director general of railroads I did my best to appreciate the point of view of the shipper as well as of the carrier, and in addition I had the practical demonstration of the fact that railroad transportation has to be paid for, and that to the extent that it cannot be paid for out of rates it has to be provided and paid for by the government out of taxes.

We have heard a great deal in this country about a budget system, and gradually the country is adopting the budget system. Section 15A is really the application of the budget principle in a broad sense to railroad regulation. The statute thus expresses the homely truth, "Look before you leap," and the other homely truth, "Count the cost." It is designed to prevent the haphazard dealing with specific rate problems without regard to the effect upon the general situation.

This new railroad rule is a simple and honest recognition of the fact that the public cannot have satisfactory railroad service without paying the cost including a fair compensation for the capital employed. If the government acquired the railroads, the public would have to pay the cost including interest on the bonds issued to buy them and the government would have to do this through taxation to whatever extent the rates were insufficient. So long as the railroads are left in private control, the public will have to pay the cost either through the rates or through a government subsidy, because in the long run it is impossible for the public to have adequate service if the cost is not paid. The rate making rule is simply a rational and responsible effort to insure the public adequate railroad service under private operation at the lowest rates that are compatible with paying the cost of that service.

There is now talk of repeal of this rate making rule without any substitute therefor being enacted. Such a proposal means that the very essence of the affirmative part of the legislative machinery for regulating the railroads and insuring the public adequate railroad service is to be eliminated, and that we will go back to the pre-war policy which contemplated fragmentary dealing with rates and placed all the stress on the restrictions and none of the stress on the affirmative steps which experience clearly showed were necessary to insure the public adequate transportation under private operation. The proposal means that we turn back from our new departure, that we overthrow our affirmative policy and return to a policy of piece-meal negation.

It is pertinent to inquire why such a proposal should be made and why it should receive support. Doubtless the first answers to such questions will be that the proposal is made in order to bring about reductions in rates, but no such change in the law is necessary to accomplish reductions in rates to the extent that railroad costs are reduced.

I have been able to think of but one group of the public that can find an adequate motive for advocating such a change in the law, and that is the group that wishes to see private operation fail so as to make government operation a necessity. As to that group, the proposal to create a condition where rates will be less than sufficient to yield the cost of railroad operation is logical because it would help to accomplish the group's ultimate desire, and that is government operation. I believe, however, that this is an exceedingly small group in this country, and that the great bulk of the people prefer the initiative of private operation under close and effective government regulation.

If Congress, after having made this new departure, hav-

ing established this affirmative policy, which has been so fully sustained by the Supreme Court, should now turn its back on all this progress, should abolish the budget system which it has prescribed for railroad rate making, the implications from such action would be very serious. The public would be led to think that Congress had not only reversed its own policy but had reversed the policy which the commission ought to pursue. Demands for rate reductions would be made with redoubled vigor and the commission would be subjected to enormous pressure just at the time when Congress had withdrawn all support. The effect upon railroad credit would, in my opinion, be exceedingly serious, and yet at the same time the conditions are such as to preclude any such considerable reduction in rates as would satisfy the public demand which would be stimulated by the Congressional action. Even a moderate reduction, and one far less than would satisfy any public demand, would be most serious from the standpoint of protecting the transportation service. I do not believe the public generally realizes how narrow is the railroad margin above its ordinary operating expenses and taxes. While most railroad costs have greatly increased since the war, and have been responsible for the high rates, there is one element of railroad cost which has not increased, and that is the railroad valuation which is used as a basis for computing the fair return. That valuation is still on a pre-war basis and stands practically where it did before the war, except to the extent that new property has been added.

Before the war it is probably true that out of every dollar the railroad collected they were able, after paying expenses and taxes, to keep about 30 cents for the purpose of paying their interest and dividends and having a surplus to put back into the property. Now the railroads are able to keep only about 15 cents out of every dollar they collect for the purpose of paying interest and dividends and creating a surplus. Hence they are working on a narrower margin than ever, and the consequence is that there is a narrower margin of reduction that can be made in their rates. For example, an average reduction of 5 per cent on all the rates in the United States would wipe out approximately one-third of railroad valuation and do irreparable damage to railroad credit, and hence to the public interest in obtaining adequate transportation, while giving no effective benefit to the public in any other direction.

In such circumstances it is of immense importance to continue to adopt the budget principle in dealing with railroad rates; to continue to look at the general situation and to see that rates are high enough to meet the costs.

Resolutions proposed during the discussion of committee reports were referred to a resolutions committee which was to report on Friday.

George A. Post, president of the George A. Post Company, of New York, presented the report of the Committee on Governmental Relations to Transportation, which was made the basis for discussion at the Wednesday morning session of the conference. This was followed by the report of the Committee on Railroad Consolidation, presented by C. R. Gray, president of the Union Pacific, and that of the Committee on Readjustment of Relative Freight Rate Schedules, presented by F. A. Delano. Three more reports were to be presented on Thursday.

In explaining the occasion for the conference A. B. Barber, manager of the transportation and communication department of the Chamber, said in part:

"The performance of the railways in handling an unparalleled traffic during the past six months does not remove the need for an adequate treatment of transportation problems. The welfare of our people requires that these railroads shall be further expanded to meet increasing traffic demands and improved to render service safer and better. The great potential co-operation of the motor vehicle must

bear its fruit in extended fields of production and wider markets with decreased costs. It is necessary also to look to the development of great potentialities of waterways to supplement the railroads with low-cost transportation.

"Railroad consolidations will advance toward solution the problems of increasing the efficiency of railroads and strengthening their credit. Sound railroad rate regulation will also contribute to the restoration of investing confidence, while needed rate adjustments will improve the distribution of railway charges so that no section or branch of our national life will feel unduly the weight of transportation costs.

"Commenting upon these reports as a whole, it should be pointed out that little legislation is recommended. The principles underlying our present laws seem to be sound. There is much for the regulating bodies to do to facilitate the co-ordination of the means of transportation—railways, motors and waterways—and the re-establishment of railway credit through a fair policy of regulation and through the measures for consolidation and rate readjustment \* \* \*."

## Smith Defeats Cummins

WASHINGTON, D. C.

**T**HE FIGHT made by the radical progressives led by Senator La Follette against the re-election of Senator Cummins as chairman of the Senate Committee on Interstate Commerce, because of his connection with the framing of the Transportation Act resulted on January 9 in the election of a Democrat, Senator E. D. Smith of South Carolina, as chairman of the committee. The deadlock which had existed since the first days of the present session was broken on the thirty-second ballot, when six of the senators who had originally voted for La Follette and who lately have been voting for Senator Couzens, threw their votes to the Democratic candidate, who received 39 votes to 29 for Cummins and 6 for Couzens, 38 being necessary to a choice. For several ballots Smith had been in the lead but with an insufficient majority. The La Follette supporters who voted for Smith were La Follette, Brookhart, Ladd, Frazier, Shipstead and Magnus Johnson, while Capper, Howell, Norris, Gooding, Norbeck and Jones continued to vote for Couzens. Senator Bruce of Baryland, Democrat, voted for Cummins. Senator Smith was chairman of the committee during the Wilson administration following the death of Senator Newlands.

When the Senate met on January 4 after the holiday recess two ballots were taken, in which Senator Smith, the Democratic candidate, received two or three votes more than Senator Cummins, the Republican candidate, but less than a majority of the votes cast, and Senator Couzens, who was supported by the radical progressives, received 11 votes, including those of Senators Borah, Capper, Gooding and Jones, besides the seven who had earlier voted for Senator La Follette. There was then an adjournment to January 7, when two more ballots were taken without result, although Senator Couzens gained one vote to 12, and Senator Fess received one vote. On January 8 no ballots were taken but on January 9 two more were taken with the same result as before, when La Follette is understood to have advised his supporters to switch to Smith.

Chairman Winslow of the House Committee has begun the preparation of bills in accordance with the recommendations relating to railroads in the President's message. Representative Shallenberger has introduced a bill, H.R. 4797, to repeal the transportation act, another, H.R. 4798, to repeal the part which created the labor board, and another, H.R. 4799, to repeal Sections 15-a and 19-a. Representative Dickstein has introduced a bill, H.R. 4503, to amend the act relating to reporting of accidents to the I. C. C.

# General News Department

The National Railways of Mexico report that construction work on the new line from Mexicali to the Gulf of California has been discontinued, temporarily, pending the outcome of the present revolutionary movement.

Near Pennington, N. J., on January 1, a four-car express train of the Philadelphia & Reading was derailed and one car was overturned, but the only serious personal injuries reported were those sustained by one man who was thrown out of a window. The tender was the first vehicle to leave the rails, and the car next behind it lodged crosswise of the tracks.

The Engineering Section of the National Safety Council will hold a meeting jointly with the American Society of Safety Engineers at the Engineering Societies Building, 29 West 39th street, New York City, on January 22. The subjects of handling material and gas and electric welding will be featured on the program. In the evening there will be a dinner at the Fifth Avenue Banquet Rooms, 200 Fifth Avenue. The speakers will be: Toastmaster, George T. Fonda; Dr. Loyal A. Shoudy, chief surgeon, Bethlehem Steel Corporation; Dr. E. George Payne, Teachers' College, Columbia University; David Van Schaack, Director, Bureau of Inspection and Accident Prevention, Aetna Life Insurance Company.

## Meeting of Purchases and Stores Division

The annual meeting of Division VI—Purchases and Stores, of the American Railway Association, will be held on June 16, 17 and 18, 1924, at Atlantic City, N. J.

## A. I. E. E. February 4

Discussion of the broad general subject of railroad transportation is planned as an important feature of the midwinter convention of the American Institute of Electrical Engineers, which is to be held in Philadelphia, beginning on February 4. These railroad meetings will probably be held on the 5th. A number of prominent railroad presidents are scheduled to speak, either at the day or the evening session. Electrification will no doubt form an important element in the discussions, but the railroad men are not restricted in their choice of topics.

## Earnings on Property Investment by Districts

The Interstate Commerce Commission has not divided the tentative valuation according to sub-districts, but compilations by the Bureau of Railway Economics show the annual rate of return for the carriers for the first eleven months in 1923, based on their property investment, to have been 4.51 per cent, and the earnings by sub-districts for the first eleven months in 1923, with the percentage of return based on property investment in each district were as follows:

	\$19,002,450	2.18 per cent
Great Lakes region .....	180,170,560	5.44 per cent
Ohio-Indiana-Allegheny region .....	202,318,500	4.94 per cent
Pocahontas region .....	43,831,500	5.72 per cent
Southern region .....	118,285,270	5.05 per cent
Northwestern region .....	102,336,976	3.40 per cent
Central Western region .....	172,496,000	4.53 per cent
Southwestern region .....	67,620,500	3.58 per cent

## The Twentieth Century Hits Another Automobile

The Twentieth Century Limited has had another encounter with an automobile on a highway crossing, but the reports indicate that no person was seriously injured. One of the westbound sections, on January 4, struck an automobile on a crossing at Forks, N. Y., about three miles east of Buffalo; and one truck of the locomotive was thrown off the rails. It is said that the train was moving at about 40 miles an hour. It appears that the automobile had been stalled on the crossing some time prior to the time the train reached

the point, and the occupants either were unable to get it off the track or else did not try to do so.

## A National Highway Crossing Conference

A national conference on the highway crossing accident problem is to be held in Chicago in March or April, according to plans which are now being made and which have been announced by F. M. Metcalfe (N. P. Ry., St. Paul), chairman of the Steam Railroad Section of the National Safety Council. These plans have been made in co-operation with the National Association of Railway and Utilities Commissioners which association took action in this direction at its recent meeting at Miami, Fla. H. G. Taylor, of Nebraska, the new president of the commissioners' association, has appointed Frank Milholland, of North Dakota, to co-operate with Mr. Metcalfe in perfecting arrangements for the conference, detailed announcement of which will be made later.

## Five-Hundred-Dollar Prize for a Safety Poster

J. C. Caviston, 30 Vesey street, New York City, secretary of the safety section of the American Railway Association, announces that a prize of \$500 will be paid to the person submitting, before February 11, the best poster for use in conducting the careful crossing campaign during the coming season; the sum of \$200 will be given as a second prize and \$100 as a third. In addition to this, \$100 will be paid to the person submitting the best slogan for the campaign. The prizes will be decided by a special committee composed of persons of national prominence, the names of whom will be announced later. The chairman of this committee is H. A. Rowe (D. L. & W.), 90 West street, New York City. Unless something is done to reduce the present rate of slaughter at grade crossings, 2,500 persons will lose their lives in this way during the present year. In the year 1922, the railroads of the country did eliminate 706 grade crossings, but the cost amounted to about seventy millions of dollars, a fact which indicates the impossibility of making rapid headway in the abolition of the thousands of crossings still needing attention.

## Wage Statistics for October

Class I railroads reported to the Interstate Commerce Commission a total of 1,936,494 employees for the month of October, 1923, a decrease of 9,423 or 0.5 per cent as compared with September employment, and an increase of 132,179 or 7.3 per cent over the number reported for October, 1922. The total compensation, however, shows an increase of \$15,788,345 or 6.2 per cent over the returns for the preceding month. This increase in compensation in the face of a decrease in employment is explained by the fact that October had 27 working days while September had only 24. The employment in the transportation (train and engine service) group continues to show an increase. For October, 1923, the number of employees in this group was greater than for any month reported under the present classification of employees, which became effective July 1, 1921. The monthly earnings, by groups, were as follows:

Group	Monthly earnings of			
	Employees reported on daily basis	Employees reported on hourly basis	October, 1923	October, 1922
Executives, officials and staff assistants	\$429	\$417	...	...
Professional, clerical and general	181	176	\$126	\$123
Maintenance of way and structures	239	236	97	86
Maintenance of equipment and stores	245	244	132	*147
Transportation (other than train, engine and yard)	98	93	125	122
Transportation (yardmasters, switch tenders and hostlers)	254	258	148	154
Transportation (train and engine service)	...	...	198	202

\*Comparatively high earnings due to large amount of overtime worked on account of strike conditions.

## REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1923

Name of road	Operating expenses										Net after rentals. 1922.
	Maintenance of Way and structures. (inc. misc.)			Equipment. Transportation. Traffic.			General. Total.			Operating ratio. (or load).	
Akron, Canton & Youngstown..... Nov. 170 \$200,407 \$680 \$216,312 9,938 \$22,009 \$9,460 \$65,102 \$8,868 \$134,337 62.10 \$67,604 \$35,198 \$25,915											
Alabama & Vickshire..... 11 mos. 170 2,363,453 9,938 2,477,681 3,718 56,023 30,291 53,909 9,540 1,058,765 100,929 1,058,765 1,2380 1,257,263 61.60 59,402 774,244 4/0,698											
Ann Arbor ..... 11 mos. 141 2,285,732 684,384 3,196,139 548,762 569,541 100,929 1,058,765 131,916 2,430,067 76,00 2,430,067 76,00 45,654 525,465 27,127 24,064											
Vicksburg, Shreveport & Pacific..... Nov. 183 2,718,055 1,072,271 4,085,936 611,120 76,096 124,369 1,306,062 152,168 2,929,663 78,10 2,929,663 78,10 1,153,873 122,968 60,809 820,867 687,856 283,237											
Atlanta, Topeka & Santa Fe..... Nov. 293 4,431,472 4,431,472 5,116,943 682,957 682,957 1,178,942 98,907 2,097,040 141,778 2,097,040 141,778 1,209,322 1,409,675 82,10 917,223 683,521 378,754 386,257											
Gulf, Colorado & Santa Fe..... Nov. 293 1,286,049 3,848,737 18,297,511 2,212,137 4,095,948 3,257,466 57,493,942 3,712,205 13,073,535 64.20 6,556,256 3,717,291 3,985,575 4,561,313											
Panhandle & Santa Fe..... Nov. 293 1,270,958 6,231,802 8,012,537 1,293,973 2,478,369 86,354 2,397,538 16,934 6,449,422 78,40 6,449,422 78,40 1,304,153 959,405 31,364,340 31,364,340											
Western Ry. of Alabama..... Nov. 133 1,959,32 75,492 296,688 40,950 61,401 53,094 10,473 82,746 11,287 2,029,984 76,40 2,029,984 76,40 1,001,115 961,499 38,692 38,692											
Atlanta, Birmingham & Atlantic..... Nov. 639 3,351,162 4,721,456 7,401,503 75,227 78,708 2,740,704 48,237 753,727 65,040 1,378,547 95,90 1,378,547 95,90 1,095,754 1,001,115 572,629 572,629											
Atlanta & West Point..... Nov. 639 3,386,757 552,570 4,237,633 758,596 997,051 236,043 2,031,273 168,901 4,193,407 98,90 4,193,407 98,90 1,22,886 18,228,253 44,226 44,226 44,226											
Atlantic Coast Line..... Nov. 4,860 1,378,971 1,362,993 2,243,971 111,637 2,478,369 9,050 2,397,538 16,934 6,449,422 78,40 6,449,422 78,40 1,304,153 959,405 31,364,340 31,364,340											
Charleston & Western Carolina..... Nov. 23 858 1,818,142 1,362,993 2,243,971 1,072,737 2,478,369 86,354 2,397,538 16,934 6,449,422 78,40 6,449,422 78,40 1,304,153 959,405 31,364,340 31,364,340											
Baltimore & Ohio..... Nov. 5,212 16,304,292 2,352,900 20,037,155 3,000,342 4,783,487 7,39,707 7,616,880 484,950 16,338,785 81,50 16,338,785 81,50 5,708,372 2,767,222 5,751,598 3,024,073											
Baltimore & Ohio Chicago Term..... Nov. 83 5,212 195,445,921 28,083,670 238,519,181 26,289,092 59,679,595 5,388,440 87,394,183 5,388,440 183,924,339 87,10 54,594,435 18,594,435 18,594,435 18,594,435											
Staten Island Rapid Transit..... Nov. 23 87,177 91,698 201,281 6,016,700 1,224,239 2,478,369 1,224,239 2,478,369 1,224,239 2,478,369 1,224,239 2,478,369 1,224,239 2,478,369 1,224,239 2,478,369											
Bangor & Aroostook..... Nov. 616 538,364 6,231,802 2,740,704 1,072,737 2,478,369 9,050 2,397,538 16,934 6,449,422 78,40 6,449,422 78,40 1,304,153 959,405 31,364,340 31,364,340											
Belt Ry. of Chicago..... Nov. 32 527,548 3,621,211 3,599,548 6,251,466 7,176,333 1,342,937 46,925 1,945,285 200,670 4,732,229 76,10 4,732,229 76,10 1,483,138 985,386 1,502,039 1,640,886											
Bessemer & Lake Erie..... Nov. 238 1,558,646 21,878 36,185 79 419,533 78,895 1,36,185 4,450 1,336 11,620 42,164 298,556 36,185 42,164 298,556 36,185 1,416,157 31,857 1,416,157 31,857											
Bingham & Garfield..... Nov. 228 18,752,260 318,823 19,446,600 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479 1,260,479											
Boston & Maine..... Nov. 228 2,286 4,466,063 21,656,589 6,895,876 900,527 900,527 576,935 54,343 3,154,012 603,421 37,592,376 603,421 37,592,376 603,421 37,592,376 603,421 37,592,376 603,421 37,592,376											
Brooklyn Eastern District Terminal..... Nov. 9 105,425 113,063 10,498 17,845 202 42,399 6,599 7,745,343 6,599 7,745,343 6,599 7,745,343 6,599 7,745,343 6,599 7,745,343 6,599 7,745,343											
Buffalo & Susquehanna..... Nov. 233 1,255,585 1,255,585 2,388,056 541,159 490,591 53,074 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755											
Buffalo, Rochester & Pittsburgh..... Nov. 589 18,110,684 1,597,684 20,600,929 3,700,552 6,661,561 282,452 7,867,610 490,908 7,867,610 490,908 7,867,610 490,908 7,867,610 490,908 7,867,610 490,908 7,867,610											
Canadian Pacific Lines in Maine..... Nov. 233 1,255,585 1,255,585 2,388,056 541,159 490,591 53,074 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755 57,755											
Catolina, Clinchfield & Ohio..... Nov. 309 69,537 78,499 502,227 876,573 10,358,4 1,36,185 4,450 1,336 11,620 42,164 298,556 36,185 42,164 298,556 36,185 1,416,157 31,857 1,416,157 31,857											
Central of Georgia..... Nov. 1,920 1,561,538 4,276,675 2,176,669 318,516 318,516 487,427 77,813 813,365 813,365 813,365 813,365 813,365 813,365 813,365 813,365 813,365											
Central of New Jersey..... Nov. 694 40,763,033 9,152,099 53,045,926 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026 1,447,026											
Central Vermont..... Nov. 533 5,926,851 5,926,851 1,213,825 8,022,830 1,247,543 1,367,947 1,367,947 1,367,947 1,367,947 1,367,947 1,367,947 1,367,947 1,367,947 1,367,947 1,367,947											
Chesapeake & Ohio..... Nov. 2,552 7,094,427 895,572 8,388,874 1,298,482 2,657,465 86,372 2,848,360 1,203,022 26,212,933 938,681 30,980,795 2,022,454 7,105,522 84,70 1,283,302 72,917 1,283,302 72,917											
Chicago & Alton..... Nov. 1,050 2,026,100 530,498 2,780,022 12,032,070 26,212,933 938,681 30,980,795 2,022,454 7,105,522 84,70 1,283,302 72,917 1,283,302 72,917 1,283,302 72,917											
Chicago, Burlington & Quincy..... Nov. 9,401 116,825,096 26,206,226 157,991,466 21,111,481 37,587,255 2,561,442 58,412,984 3,959,748 124,667,631 78,90 33,23,825 24,609,181 22,084,768 22,084,768											

\*Includes a credit of \$15,045, representing adjustment of expenses in connection with the maintenance of joint tracks months of January to July, 1923, inclusive.

## RAILWAY AGE

January 12, 1924

RAILWAY AGE

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1923—CONTINUED

## REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1923—CONTINUED

Name of road.	Operating expenses										Net after rentals.				
	Average mileage operated during period.	Operating revenues		Total	Maintenance of equipment	Way and structures.	Traffic.	Transportation.	General.	Total.	Operating ratio.	from railway operation.	Operating income (or loss).	Net after rentals.	
Georgia .....	Nov. 328	\$398,848	\$97,337	\$531,942	\$63,827	\$90,030	\$21,201	\$216,093	\$20,897	\$411,425	77.30	\$20,517	\$114,245	\$73,814	
Georgia & Florida .....	Nov. 405	1,153,036	1,177,940	5,692,228	1,563,563	1,051,853	240,413	2,326,472	219,594	4,425,551	78.50	1,223,677	1,151,553	1,034,556	
Grand Trunk Western .....	Nov. 347	1,205,935	223,537	1,632,925	209,152	205,640	92,339	652,589	82,719	1,244,76	73.40	42,855	36,395	25,883	
Atlantic & St. Lawrence .....	Nov. 166	15,000,779	2,178,039	18,280,560	1,504,452	221,586	45,911	580,492	48,890	1,241,879	76.20	388,149	318,046	213,256	
Chicago, Det. & Canada Gr. T., Ict., Nov.	Nov. 166	2,161,606	386,989	2,722,746	389,006	595,352	52,568	371,123	419,353	6,381,719	602,246	13,094,190	82,50	103,929	
Detroit, Grand Haven & Mil., Nov.	Nov. 59	2,580,393	103,062	2,683,456	36,934	52,376	1,842,11	3,567,384	1,842,11	5,956	121,315	9,586	51,086,070	4,523,759	
Great Northern .....	Nov. 823	10,160,208	1,183,206	12,218,122	14,050,323	111,662,059	14,490,76	1,556,419	1,674,100	42,019,564	2,303,133	80,733,830	72,30	102,462	
Green Bay & Western .....	Nov. 823	95,184	9,016	111,072	19,079	20,172,318	1,206,027	2,661,9	2,677	40,513	2,481	1,024,294	83,90	27,515	
Gulf Coast Lines .....	Nov. 922	966,870	171,805	1,202,184	1,783,436	158,413	42,700	300,562	327,346	2,844,786	14,336	43,670	1,446,770	64,931	
Gulf & Ship Island .....	Nov. 307	216,769	35,963	280,887	61,208	46,043	8,835	911,341	94,414	12,845	145,186	2,298,470	78.50	1,442,550	
Gulf, Mobile & Northern .....	Nov. 307	2,291,690	446,348	3,046,611	585,303	452,380	99,706	22,397	192,357	1,934,349	187,396	4,065,370	82,70	1,442,550	
Hocking Valley .....	Nov. 465	4,736,722	5,472,086	458,747	495,500	88,221	827,832	192,944	181,244	1,446,770	12,943	462,758	82,70	1,442,550	
Illinois Central .....	Nov. 348	14,266,564	1,019,178	15,509,211	1,610,813	5,957,237	144,847	4,880,500	407,891	12,996,106	12,996,106	90,50	1,442,550	1,442,550	
Yazoo & Mississippi Valley .....	Nov. 1,380	1,587,12	2,378,522	24,378,008	14,336,184	1,206,027	36,919,308	2,167,531	2,167,531	57,381,476	3,884,711	22,868,537	80,80	1,442,550	
Kansas City, Mexico & Gulf .....	Nov. 272	147,534	9,211	164,578	46,550	24,002	4,560	72,235	5,390	154,737	1,206,027	80,80	1,442,550	1,442,550	
Kans. City, Mex. & Orient of Tex. Nov.	Nov. 465	1,157,333	88,234	1,665,702	398,237	38,538	4,885	788,858	58,563	1,642,908	260,226	84,50	1,442,550	1,442,550	
Lake Superior & Ishpeming .....	Nov. 33	97,937	126,247	1,609,403	285,01	364,578	27,570	4,885	51,052	1,32,985	828,102	380,664	1,029,999	79,20	
Lehigh & New England .....	Nov. 33	1,169,585	2,449,411	14,300,468	2,711,957	2,535,735	343,512	5,331,143	522,258	1,1,449,514	80,006	2,850,554	1,242,173	23,409,440	
Lake Terminal .....	Nov. 111	95	2,217,994	171,350	2,643,145	282,828	244,777	55,078	694,936	95,618	1,387,549	52,50	1,255,796	1,109,311	1,242,173
Lehigh & Hudson River .....	Nov. 96	2,625,021	11,835	221,350	43,918	34,274	79,933	11,111	177,470	80,20	43,880	33,958	27,991	60,330	
Louisiana Ry. & Nav. Co. of Tex., Nov.	Nov. 314	2,023,525	11,209	2,291,572	126,713	2,291,856	438,163	307,184	79,333	889,567	1,209,935	83,20	34,917	27,507	
Louisiana & Arkansas .....	Nov. 33	1,061,390	96	1,269,570	35,335	115,519	12,143	22,171	2,247,171	3,113	64,994	56,20	30,225	23,409,440	
Lake Terminus .....	Nov. 13	.....	.....	1,066,532	183,733	19,935	2,656,636	.....	56,854	1,601,734	10,937,179	104,00	—	10,449	
Lehigh & Hudson River .....	Nov. 96	1,189	2,625,018	6,057,623	2,291,572	50,039	66,616	510,370	17,110	1,035,415	94,250	2,291,572	1,206,027	1,206,027	
Lehigh & New England .....	Nov. 219	453,895	1,570	464,276	60,677	1,79,593	6,061	1,48,644	16,703	411,675	88,70	52,601	52,601	52,601	
Lehigh Valley .....	Nov. 199	5,310,922	20,796	5,423,964	2,705,659	5,761,981	81,192	1,697,097	183,009	4,137,862	76,30	1,286,102	1,286,102	1,286,102	
Los Angeles & Salt Lake .....	Nov. 343	299,384	23,376	341,892	47,901	1,745,215	4,913,614	55,442	60,817	1,101,973	1,101,973	81,10	52,90	52,90	
Louisiana Ry. & Nav. Co. .....	Nov. 206	1,166	11,121	15,400	3,596,154	712,316	651,887	11,305	1,411,381	1,411,381	121,019	4,577	46,087	46,087	
Louisville & Nashville .....	Nov. 365	1,201	13,628,163	4,445,783	19,567,815	3,049,195	3,836,655	149,535	8,876,850	11,817	1,612,771	76,50	13,542	13,542	
Louisville, Henderson & St. Louis, Nov.	Nov. 199	1,201	13,628,281	4,445,783	19,567,815	3,049,195	3,836,655	149,535	8,876,850	11,817	1,612,771	76,50	13,542	13,542	
Maine Central .....	Nov. 365	1,201	13,628,163	4,445,783	19,567,815	3,049,195	3,836,655	149,535	8,876,850	11,817	1,612,771	76,50	13,542	13,542	
Midland Valley .....	Nov. 365	1,201	13,628,163	4,445,783	19,567,815	3,049,195	3,836,655	149,535	8,876,850	11,817	1,612,771	76,50	13,542	13,542	

## REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1923—CONTINUED

Name of road.	Average mileage operated during period.		Operating revenues—Total			Operating expenses—			Net from railway operation.			Net after rentals.				
	Freight.	Pasenger. (inc. misc.)	Way and equipment structures.	Maintenance of equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Operating income (or loss).	Operating income (or loss).	Net after rentals.	Net after rentals.	Net after rentals.		
Minneapolis & St. Louis..... Nov.	\$1,131,887	\$111,610	\$1,314,155	\$197,556	\$335,194	\$28,253	\$623,004	\$1,227,986	93.40	\$86,169	\$58,945	\$104,806	\$1,069,661			
Minneapolis & St. Louis..... Nov.	1,649	12,861,168	1,509,446	15,170,241	2,157,918	3,491,248	6,744,523	481,786	86.70	2,014,102	1,291,483	730,440	590,332	6,361,300		
Minneapolis, St. Paul & S. S. Marie..... Nov.	11 mos.	1,649	12,681,103	3,402	3,268,103	555,366	627,506	55,823	104,388	2,899,713	2,242,019	1,022,485	926,575	7,501,551		
Minneapolis, St. Paul & S. S. Marie..... Nov.	11 mos.	4,395	35,067,225	35	4,908,254	45,908,043	8,662,092	648,581	18,907,990	35,121,537	76,50	10,786,717	7,591,891	7,501,551	6,361,300	
Mississippi Central..... Nov.	257	1,355,530	15,231	1,56,381	30,565	29,955	5,868	46,627	8,170	121,195	77,50	35,261,593	268,687	28,333	157,528	
Missouri & North Arkansas..... Nov.	257	1,411,982	182,851	1,654,075	340,144	294,110	63,624	548,618	8,114	1,327,482	80,30	35,807	35,753	122,669	80,818	
Missouri & North Arkansas..... Nov.	364	1,150,354	243,917	1,46,382	241,101	19,733	4,593	53,160	7,360	107,575	82,90	244,132	214,560	122,669		
Missouri-Kansas-Texas..... Nov.	1,813	2,377,419	5,413,309	3,120,935	342,906	993,632	605,922	9,365,553	1,115,465	2,308,998	74,00	811,937	622,081	733,041	808,747	
Missouri-Kansas-Texas..... Nov.	1,889	23,897,761	5,413,309	32,085,554	3,885,638	9,451,416	28,866	483,344	47,052	24,437,907	76,20	7,617,627	5,811,814	7,055,104	8,163,000	
Miss.-Kans.-Tex. of Texas..... Nov.	1,369	1,362,324	4,664,556	1,988,991	3,377,979	357,790	605,922	736,314	62,811	1,562,587	78,60	3,476,939	3,784,477	1,315,54	1,378,655	
Miss.-Kans.-Tex. of Texas..... Nov.	1,484	12,654,286	4,748,389	19,112,134	2,872,955	3,339,367	457,571	7,533,108	792,401	15,484,175	81,00	3,627,939	3,081,152	955,794		
Monongahela..... Nov.	7,364	7,994,605	1,488,999	10,293,814	1,422,115	2,495,738	1,847,921	41,127,975	2,347,831	293,111	8,347,831	81,10	1,945,983	1,571,489	1,301,362	710,517
Monongahela..... Nov.	7,224	7,922,590	17,227,553	15,095,153	15,095,153	28,175,975	1,845,921	41,127,975	2,347,831	293,111	8,347,831	81,10	1,945,983	1,571,489	1,301,362	710,517
Mobile and Ohio..... Nov.	1,165	1,421,785	1,63,374	1,682,563	288,866	409,522	61,160	41,936	1,398,845	85,60	15,122,715	11,007,859	8,026,847	6,733,721		
Mobile and Ohio..... Nov.	1,165	15,722,213	1,825,771	18,545,07	2,522,808	4,272,404	503,905	6,803,513	50,899	14,610,530	78,70	207,896	150,592	32,446,372	32,446,372	
Monon..... Nov.	106	402,407	30,801	421	1,226,466	948	145,120	10,399	353,260	80,60	84,818	69,468	-11,065	56,223		
Monon..... Nov.	106	4,822,043	40,188,2	5,303,682	688,257	1,226,466	12,068	1,614,620	104,444	3,635,961	68,60	1,667,701	1,552,785	615,125		
Monongahela Connecting..... Nov.	7	7	7	7	32,077	43,761	5,667	1,250,926	52,805	2,055,613	82,30	443,637	417,318	-4,324	-13,832	
Monon..... Nov.	1,258	1,56,049	382,943	22,867,659	4,310,500	5,495,514	802,898	8,693,846	674,829	19,70,018	86,20	29,884	22,344	53,843	89,552	
Nashville, Chattanooga & St. Louis..... Nov.	1,258	16,720,713	4,595,549	22,867,659	4,310,500	5,495,514	802,898	8,693,846	674,829	19,70,018	86,20	29,884	22,344	53,843	89,552	
Nevada Northern..... Nov.	57	2,36,555	5,086	32,531	32,532	1,269,342	383,504	623,658	12,026	36,991	7,166	1,546,498	89,10	154,447	88,526	
Newburgh & South Shore..... Nov.	11 mos.	165	86,735	7,193,482	10,154,38	1,269,342	382,943	623,658	12,026	36,991	7,166	1,546,498	89,10	154,447	88,526	
New Orleans Great Northern..... Nov.	274	18,795	30,328	1,727,612	32,665	47,626	6,561	17,604	4,164	10,238	170,919	75,10	56,693	39,896	22,312	
New York Central..... Nov.	6,899	25,807,960	90,089,553	388,749,266	45,826,286	97,739,266	19,766	52,396	42,621	1,791,910	68,20	83,482	51,352	55,921	55,921	
Cincinnati Northern..... Nov.	244	368,494	10,701	1,024,265	11,734	6,225	1,130	7,401	165,421	41,794	1,236,269	44,00	525,011	448,526	180,870	
Cleveland, Cincinnati, Chicago & St. Louis..... Nov.	244	4,54,669	37,511	9,328,280	130,536	68,117	1,265,421	1,740,1	1,265,421	3,972	144,305	78,50	39,370	26,113	19,724	
Michigan Central..... Nov.	11 mos.	244	5,64,523	1,324,752	32,43,752	183,675	48,802	52,396	79,982	790,074	82,50	341,355	139,445	135,083	265,730	
Indiana Harbor Belt..... Nov.	119	120	120	107,709	110,442	12,908	5,119	128,683	7,312	280,260	72,70	104,310	89,056	43,360	105,514	
Cleve., Cin., Chic. & St. Louis..... Nov.	2,407	6,46,110	52,396	1,322,170	1,625,595	349,708	8,768,389	1,875,1	1,875,1	3,63,195	69,90	1,641,567	1,219,916	1,078,376	1,078,376	
New York Connecting..... Nov.	234	2,781,261	263,152	3,147,805	4,32,354	1,78,454	64,494	803,511	803,511	2,039,805	66,000	2,645,774	2,420,500	47,529,729		
Pittsburgh & Lake Erie..... Nov.	232	37,56,521	3,024,733	4,32,887	4,32,887	1,612,310	1,417,893	2,806,116	62,555	2,039,805	66,000	2,645,774	2,420,500	47,529,729		
New York, New Haven & Hartford..... Nov.	2,000	5,481,157	4,32,887	11,038,299	1,37,309	1,157,309	1,157,309	1,157,309	1,157,309	1,157,309	1,157,309	1,157,309	1,157,309	1,157,309	1,157,309	
New York, Chicago & St. Louis..... Nov.	1,696	48,810,572	2,163,310	53,684,222	6,585,707	11,639,115	1,204,407	18,954,991	1,204,407	18,954,991	1,626,580	61,322,588	70,20	26,058,719	25,000	2,037,902
New York Connecting..... Nov.	19	181,016	181,016	1,28,152	13,472	12,908	2,988	950,113	67,901	67,901	28,50	172,483	541,000	966,491	1,541,038	
New York, New Haven & Hartford..... Nov.	569	8,076,541	2,894,931	1,80,702	1,326,069	1,242,949	1,480,677	2,231,787	82,382	2,231,787	80,90	24,748,250	24,748,250	4,224,805		
New York, Ontario & Western..... Nov.	569	8,076,541	2,894,931	1,80,702	1,326,069	1,242,949	1,480,677	2,231,787	82,382	2,231,787	80,90	24,748,250	24,748,250	4,224,805		
Norfolk & Western..... Nov.	2,238	7,214,387	7,214,387	8,30,413	1,091,462	2,31,787	2,231,787	82,382	2,231,787	82,382	77,00	20,107,554	14,397,845	17,981,521		
Norfolk Southern..... Nov.	931	7,110,237	7,110,237	8,420,535	11,863,043	2,305,476	2,231,787	80,90	2,231,787	80,90	74,70	22,076,760	18,300	140,357	13,500	
Central New England..... Nov.	295	673,386	14,523	1,21,382	11,993	12,176,722	1,480,677	51,325	2,608,803	114,616	5,495,099	86,70	1,45,790	1,45,790	1,45,790	
New York, New Haven & Hartford..... Nov.	569	8,39,500	96,940	1,09,5,511	1,17,505	2,65,000	173,211	5,924,634	354,526	11,270,621	87,30	2,132,311	1,727,521	422,313		
Northern Pacific..... Nov.	496	4,366,657	2,433,394	7,126,222	8,547,222	1,128,862	1,368,225	2,940,000	1,368,225	1,368,225	87,30	1,637,790	1,244,690	908,842	497,239	
Northern Pacific..... Nov.	496	8,140,074	10,135,639	10,60,383	1,044,263	1,817,389	1,21,29,781	1,044,263	1,817,389	1,817,389	64,40	3,557,680	2,822,271	3,012,652	6,012,138	
Northern Pacific..... Nov.	496	7,124,908	14,203,339	94,13,549	13,21,497	2,806,116	1,67,815	1,67,815	1,67,815	1,67,815	79,70	19,049,069	11,253,559	16,581,627		
Northern Pacific..... Nov.	496	7,332,401	1,81,625	56,117,6	13,413	128,914	1,22,09,923	1,22,09,923	1,22,09,923	1,22,09,923	72,20	2,081,600	1,562,174	1,424,813	1,512,664	

REVENUES AND EXPENSES OF RAILWAYS

MOTIVES OF NORMATIVE AND UTILITY CONCERN IN 1021

## REVENUES AND EXPENSES OF RAILWAYS

MOUTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1923—CONTINUED

Name of road.	Average mileage operated during period.			Operating revenues—			Operating expenses—			Net from railway operation.			Net after rentals.	
	Freight.	Pasenger.	Total (inc. misc.)	Way and equipment structures.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Operating income (or loss).	Net after rentals.	Net after rentals.	Net after rentals.	Net after rentals.
Northern Alabama . . . . . Nov. 110 \$13,847 \$13,472 \$10,805 \$32,557 \$15,543 \$2,449 \$3,173 \$6,444 \$100,130 \$66.40 \$44,666 \$16,602 \$29,588														
11 mos. 110 1,419,249 1,47,145 1,60,855 266,755 247,701 538,515 41,842 537,727 95,727 59.70 64,128 57,926 29,477 151,433														
Southern Pacific . . . . . Nov. 111 1,215,244 3,688,330 17,911,363 2,320,105 2,578,873 303,993 5,597,231 46,715 11,496,509 64.10 6,444,854 4,547,335 4,124,686 4,25,355														
11 mos. 7,124 126,688,735 42,833,898 187,899,784 24,904,375 30,919,931 3,030,471 59,417,797 5,092,966 126,371,661 67.30 61,488,123 46,557,571 42,985,205 36,238,359														
Arizona Eastern . . . . . Nov. 382 2,914,446 318,213 3,466,822 474,709 527,533 3,317 34,835 878,581 20,748 220,192 65.20 1,269,558 974,494 883,293 685,803														
Atlantic Steamship Lines . . . . . Nov. 382 1,158,595 58,217 1,264,090 15,554 1,62,785 2,264,876 238,150 7,906,167 22,803 28,100 1,316,147 85.10 —52,057 1,770,213 1,64,432 128,359														
Galveston, Harrisburg & S. Antonio, Nov. 1,379 1,811,948 411,214 2,416,529 630,674 42,866 846,489 69,068 1,915,570 767,452 18,461,814 84.40 3,400,103 2,675,133 2,110,773 1,802,778														
Houston & Texas Central . . . . . Nov. 923 9,519,454 3,16,545 1,48,832 22,497 2,520,534 2,619,628 2,520,534 279,179 5,489,189 50,030 10,561,165 78.90 2,828,465 2,241,031 1,767,345 2,179,034														
Houston, East & West Texas . . . . . Nov. 191 258,410 2,69,391 494,290 2,91,690 66,355 60,149 41,372 97,156 2,498,944 287,404 64,90 157,237 1,269,558 974,494 883,293 685,803														
Louisiana Western . . . . . Nov. 191 2,334,002 81,168 442,641 76,598 175,540 803,426 113,153 1,224,449 117,780 101,388 185,161 3,084,385 287,404 64,90 157,237 1,269,558														
Morgan's L. & T. R. R. & S. S. Co., Nov. 207 2,988,758 991,507 4,263,894 10,899,758 108,547 10,857 1,86,193 22,040 183,289 3,208,659 341,622 73,40 255,078 416,033 146,033 120,083														
Texas & New Orleans . . . . . Nov. 507 623,631 1,62,446 2,42,222 30,152 238,101 13,598 13,598 298,805 26,335 912,933 108,40 432,120 81,566 187,729 116,721														
Spokane International . . . . . Nov. 165 64,448 817,575 1,028,688 191,202 1,02,427 35,801 396,772 64,563 1,215,235 74,90 1,269,558 974,494 883,293 685,803														
Spokane, Portland & Seattle . . . . . Nov. 554 750,285 150,248 97,702 143,661 160,025 9291 1,234,138 571,866 58,50 405,196 330,173 246,458 215,421														
Tennessee Central . . . . . Nov. 554 5,111,070 1,590,186 7,804,918 1,07,877 1,340,089 119,791 2,312,842 195,219 5,090,850 65,20 2,714,088 1,888,153 1,531,682 1,44,167														
Tenn. R. R. Association of St. L. . . . . Nov. 37 37 4,714,504 1,043,897 452,049 10,956 1,598,054 96,501 3,239,989 78,80 603,233 53,624 347,753 55,834														
East St. Louis Connecting . . . . . Nov. 1 1 2,209,985 188,839 87,693 3,115 72,086 2,186 100,741 51.30 95,471 1,221,523 1,065,538 843,419 783,393														
St. L. Merchants' Bridge Term. . . . . Nov. 9 9 4,497,372 577,143 320,951 10,037 2,10,917 75,721 3,088,769 68,70 88,194 25,754 37,631 23,686 1,008,008														
St. Louis Transfer Ry. . . . . Nov. 6 6 72,597 10,326 5,174 54,367 181 40,439 1,201 57,297 78,90 15,300 12,912 174,788 21,658														
Texas & Pacific . . . . . Nov. 1,952 2,394,908 632,608 3,250,698 391,720 4,161,344 6,704,289 570,242 10,50,876 396,772 64,563 14,601 1,269,558 974,494 883,293 685,803														
Toledo, Peoria & Western . . . . . Nov. 247 89,227 2,84,520 47,631 502,269 47,631 69,014 1,025,431 107,319 2,241,907 78,80 603,233 53,624 347,753 55,834														
Trinity & Brazos Valley . . . . . Nov. 368 2,10,417 2,22,183 3,233,073 452,153 67,765 3,164 20,1080 15,505 2,113,411 67,10 243,740 236,053 146,899 31,981														
Ulster & Delaware . . . . . Nov. 128 7,96,981 10,394 117,098 8,361 25,9,031 30,794 58,237 3,400 91,003 77,70 26,025 20,025 1,269,924 203,559 129,739 21,708														
Union R. R. of Penna. . . . . Nov. 45 45 1,48,953 423,603 1,058,495 28,150,503 22,29,935 180 482,527 8,475 79,499,96 83,70 22,294 13,316 1,269,924 203,559 129,739 21,708														
Union Pacific . . . . . Nov. 3,708 8,798,071 1,368,325 11,108,217 1,050,860 1,92,676 1,30,045 3,019,735 302,821 6,625,050 59.60 4,483,167 3,894,781 3,409,801 3,175,027														
Oregon Short Line . . . . . Nov. 2,366 2,336 2,258,032 4,10,474 3,91,521 29,316,210 62,672 1,17,755 1,16,132 2,50,110 63,60 1,432,518 1,080,389 29,492,907 24,037,705														
St. Joseph & Grand Island . . . . . Nov. 2,366 2,336 2,258,032 4,10,474 3,91,521 29,316,210 62,672 1,17,755 1,16,132 2,50,110 63,60 1,432,518 1,080,389 29,492,907 24,037,705														
Utah . . . . . Nov. 112 157,346 491 1,58,264 1,005,601 422,949 2,960,601 544,336 4,78,384 60,041 1,038,925 1,312,338 2,19,130,3 74,90 1,269,558 974,494 883,293 685,803														
Virginian . . . . . Nov. 543 765,642 74,803 1,23,640 1,87,342 47,1,301 12,612 40,794 4,108 40,391 58,261 1,180,549 1,02,543 17,20 347,744 324,944 249,774 176,588 235,015														
Wabash . . . . . Nov. 540 17,092,931 866,698 19,130,031 4,85,682 130,466 5,175,557 389,098 12,434,997 64,90 6,15,434 5,599,085 5,945,111 5,126,355														
Western Maryland . . . . . Nov. 804 1,617,138 1,045,444 565,312 585,236 27,748 1,257,224 133,185 2,50,311 84,40 475,133 327,504 6,553,133 5,609,065 5,661,884														
Western Pacific . . . . . Nov. 804 19,479,771 883,468 21,34,418 5,565,179 40,452 7,212,781 496,694 16,473,452 77,20 4,870,966 3,955,966 4,277,170 2,815,094														
Wheeling & Lake Erie . . . . . Nov. 511 1,422,852 1,67,734 2,261,944 13,120,226 2,152,209 2,184,550 39,689 4,366,737 380,097 9,804,255 75,20 2,325,971 2,384,106 2,816,337 1,738,981 2,512,562														
11 mos. 511 15,773,995 685,622 17,865,372 2,155,428 201,180 5,227,321 407,591 13,667,866 76,60 4,177,506 3,868,487														

### Chicago Passenger Terminal Problem

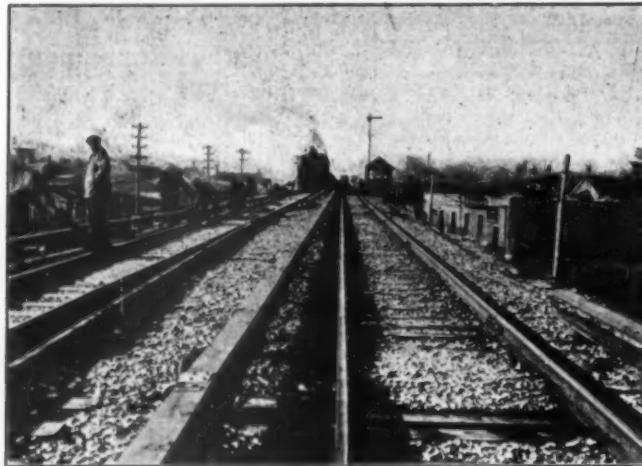
Daniel Willard, president of the Baltimore & Ohio, in a conference with Mayor Dever of Chicago on January 7, gave assurance that the Baltimore & Ohio will co-operate with the New York Central and the Rock Island in the solution of the passenger terminal problem in Chicago. Mr. Willard stated that no legal action would be taken to obstruct the work and that the transfer of property necessary for the various projects will be accomplished as soon as the price has been agreed upon.

### Progress on Long Island

#### Improvement East of Jamaica

The Long Island on January 7 placed in operation the east-bound, or second, track of its new high-grade line east of Jamaica, Queensboro, New York City, signifying the completion of about 60 per cent of the work incident to the elimination of grade crossings, electrification and four-tracking of its main line between Hillside and Floral Park (4.3 miles). The first track on the elevated embankment, which will eventually carry four tracks, was opened for westbound service on December 17 last.

The importance that attaches to the inauguration of eastbound



Two New High Level Electrified Tracks Put into Service Between Hillside, L. I., and Floral Park

service on the new level—which is about 20 ft. above the present or old track location—lies in the fact that the transfer of all traffic in both directions to the upper grade level, marks the complete discontinuance of service on the lower tracks, automatically abolishing five grade crossings and opening up two new streets to vehicles and pedestrians, thereby eliminating delays incident to carrying on improvement work. The highways, which will no longer be crossed at grade by the railroad, are Hempstead turnpike, Springfield boulevard (Creed avenue), and Bennett,

Wertland and Madison avenues. The first two are extremely busy thoroughfares.

The Queens elimination improvement extends from Hollis station easterly to a point in Nassau county about 2,000 ft. west of Bellrose station (about 3 miles). The scope of this particular work, in conjunction with the four-tracking and electrification to Floral Park, involves:

- (1) Placement of more than 600,000 cu. yd. of embankment. Over 400,000 cu. yd. have already been placed.
- (2) Construction of 24,000 cu. yd. of concrete retaining walls.
- (3) Erection of seven bridges requiring 1,900 tons of steel.
- (4) Building of new passenger stations at Bellaire and Queens.
- (5) Construction of car-floor-level concrete platforms of 11-car capacity, at Bellaire, Queens, Bellrose and Floral Park.
- (6) Providing foot subways between platforms at Bellrose and Floral Park.
- (7) Extension of station facilities at Hollis and Hillside.
- (8) Erection of new interlocking plants at Queens and Floral Park.
- (9) Installation of complete system of automatic block signals between Hillside and Floral Park.
- (10) Laying of four main line tracks with 100-pound rail, and electrifying these tracks with 150-pound third rail.
- (11) Rebuilding of electric transmission telegraph and telephone lines.
- (12) Construction of new lay-up yard for local electric trains on the Central Branch east of Floral Park.
- (13) Construction of new freight delivery yard on the high level at Queens.

Preliminary preparations for the proper prosecution of this extensive improvement work called for the construction of a complete double-track line 2½ miles long on the south side of the right-of-way for temporary use between Hollis and Bellrose, together with connections at Queens freight yard and Belmont Park Terminal.

It is expected the Queens elimination improvement will be completed before the summer time table goes into effect next May, at which time it is also expected to place in service all four tracks between Hillside and Floral Park.

### Railway Earnings and Expenses for November

Class I railroads in November had a net railway operating income of \$84,516,800, which represents an annual rate of return of 4.68 per cent on their tentative valuation as fixed by the Interstate Commerce Commission plus additions and betterments up to January 1, 1923, according to a preliminary compilation of their returns to the Interstate Commerce Commission. In the eastern district the rate of return was 4.19 per cent and in the southern district 4.95 per cent, and in the western district 5.05 per cent. The net railway operating income for November represents an increase of 3½ per cent as compared with November, 1922. Operating revenues for the month showed an increase of 1½ per cent, operating expenses increased 1/10 of 1 per cent and maintenance expenses increased 4.9 per cent. For the first 11 months of 1923 the net railway operating income was \$906,061,895, an increase of 30.1 per cent as compared with the corresponding period of 1922. This represented an annual rate of return of 5.15 per cent. For the eastern district the rate of return was 5.49, for the southern district 5.97 and the western district 4.56. Whereas earlier in the year the eastern roads were showing a high percentage of return and the western roads a low percentage, the figures for November show more favorably

TABLE 1.—PRELIMINARY REPORT OF REVENUES AND EXPENSES. CLASS I RAILROADS AND LARGE SWITCHING AND TERMINAL COMPANIES

Item and District	Month of November,			11 months' period ended November 30,		
	1923	1922	Per cent of increase	1923	1922	Per cent of increase
Total Operating Revenues:						
Eastern District (incl. Pocahontas Region).....	\$254,668,914	\$258,668,423	d 1.5	\$2,973,212,232	\$2,506,376,471	18.6
Southern District (excl. Pocahontas Region).....	68,006,624	65,071,132	4.5	741,079,350	645,315,791	14.8
Western District .....	201,588,698	192,958,544	4.5	2,140,632,686	1,948,235,608	9.9
Total—United States .....	524,264,236	516,698,099	1.5	5,854,929,268	5,099,927,870	14.8
Total Maintenance Expenses:						
Eastern District (incl. Pocahontas Region).....	98,543,816	94,416,021	4.4	1,090,628,160	921,973,437	18.3
Southern District (excl. Pocahontas Region).....	24,894,654	23,338,000	6.7	267,255,944	224,767,473	18.9
Western District .....	63,413,659	60,314,293	5.1	760,247,445	673,462,564	12.9
Total—United States .....	186,852,129	178,068,814	4.9	2,118,131,549	1,820,203,474	16.4
Total Operating Expenses:						
Eastern District (incl. Pocahontas Region).....	207,500,402	209,477,535	d 0.9	2,336,193,291	2,034,935,183	14.8
Southern District (excl. Pocahontas Region).....	53,097,544	50,790,404	4.5	577,406,632	505,870,010	14.1
Western District .....	140,762,586	140,687,538	0.1	1,636,957,840	1,506,895,017	8.6
Total—United States .....	401,360,532	400,955,477	0.1	4,550,557,763	4,047,700,210	12.4
Net Railway Operating Income:						
Eastern District (incl. Pocahontas Region).....	31,017,224	32,999,745	d 6.0	445,323,085	308,956,221	44.1
Southern District (excl. Pocahontas Region).....	10,442,256	10,164,638	2.7	118,285,272	96,874,117	22.1
Western District .....	43,057,380	38,527,506	11.8	342,453,538	290,482,067	17.9
Total—United States .....	84,516,860	81,691,889	3.5	906,061,895	696,312,345	30.1
Rate Earned—Annual Basis:						
Eastern District (incl. Pocahontas Region).....	4.19	4.56	....	5.49	3.90	....
Southern District (excl. Pocahontas Region).....	4.95	4.92	....	5.97	4.99	....
Western District .....	5.05	4.61	....	4.56	3.94	....
Total—United States .....	4.68	4.62	....	5.15	4.04	....

for the western roads than for those of the east or the south, and for the 11 months' period the percentage for the western roads was above that for the eastern roads, while the southern district was the only one to show a rate in excess of 5½ per cent.

Twenty-four Class I roads had deficits in November. The preliminary summary is shown in Table 1.

### National Railway Appliances Association Exhibitors

A total of 156 companies have been assigned space at the sixteenth annual exhibit of the National Railway Appliances Association which will be held at the Coliseum, Chicago, on March 10-13, at the time of the convention of the American Railway Engineering Association. In addition 16 companies have taken associate membership without space. The names of the members and associate members follow:

- Adams Motor & Manufacturing Company, Chicago.
- Adams & Westlake Company, Chicago.
- Ahlberg Bearing Company, Chicago.
- Air Reduction Sales Company, New York City.
- American Abrasive Metals Company, Chicago.
- American Bolt Corporation (Boss Nut Division), Chicago.
- American Car & Foundry Company, Chicago.
- American Chain Company, Inc., Bridgeport, Conn.
- American Hoist & Derrick Company, St. Paul, Minn.
- American Malleable Castings Association, Cleveland, Ohio.
- American Steel & Wire Company, Chicago.
- American Valve & Meter Company, Cincinnati, Ohio.
- Argyle Railway Supply Company, Chicago.
- Baker R. & L. Company, Cleveland, Ohio.
- Balkwill Manganese Crossing Company, Cleveland, Ohio.
- Bethlehem Steel Company, Bethlehem, Pa.
- Blake Manufacturing Company, Mansfield, Pa.
- Blaw-Knox Company, Pittsburgh, Pa.
- S. F. Bowser & Co., Inc., Fort Wayne, Ind.
- L. S. Brach Manufacturing Company, Newark, N. J.
- Brown Rail Loader Company, Boston, Mass.
- Buda Company, Chicago.
- Bryant Zinc Company, Chicago.
- Carbie Manufacturing Company, Chicago.
- Carter Bloxonend Flooring Company, Kansas City, Mo.
- Central Electric Company, Chicago.
- Challenge Company, Batavia, Ill.
- H. Chaanon & Company, Chicago.
- Chicago Bridge & Iron Works, Chicago.
- Chicago Flag & Decorating Company, Chicago.
- Chicago Malleable Castings Company, Chicago.
- Chicago Pneumatic Tool Company, New York City.
- Chipman Chemical Engineering Company, Inc., New York City.
- Cities Service Oil Company (Illinois), Chicago.
- Clark Car Company, Pittsburgh, Pa.
- Cleveland Frog & Crossing Company, Cleveland, Ohio.
- Cleveland Railway Supply Company, Cleveland, Ohio.
- Creepcheck Company, Inc., Hoboken, N. J.
- Crerar, Adams & Company, Chicago.
- Chicago Railway Signal & Supply Company, Chicago.
- Detroit Graphite Company, Detroit, Mich.
- Diamond State Fibre Company, Bridgeport, Pa.
- Paul Dickinson, Inc., Chicago.
- Dilworth, Porter & Company, Inc., Pittsburgh, Pa.
- Duff Manufacturing Company, Pittsburgh, Pa.
- Thomas A. Edison, Inc., Bloomfield, N. J.
- Electric Storage Battery Company, Philadelphia, Pa.
- Electric Tamper & Equipment Company, Chicago.
- Elwell-Parker Electric Company, New York City.
- Engineering and Contracting, Chicago.
- Eymon Crossing Company, Marion, Ohio.
- Fairbanks, Morse & Company, Chicago.
- Fairmont Railway Motors, Inc., Fairmont, Minn.
- J. R. Fleming & Son Co., Inc., Scranton, Pa.
- Frog, Switch & Manufacturing Company, Carlisle, Pa.
- General Electric Company, Schenectady, N. Y.
- Graver Corporation, Chicago.
- W. & L. E. Gurley, Troy, N. Y.
- Hall Switch & Signal Co., Garwood, N. J.
- Hayes Track Appliance Company, Richmond, Ind.
- Hazard Manufacturing Company, Wilkes-Barre, Pa.
- Headley Good Roads Company, Philadelphia, Pa.
- Hubbard & Company, Pittsburgh, Pa.
- Idol Track Liner Company, Chicago.
- Illinois Malleable Iron Company, Chicago.
- Illinois Steel Company, Chicago.
- Ingersoll-Rand Company, New York City.
- International Signal Company, New York City.
- Jaeger Machine Company, Columbus, Ohio.
- Johns-Manville, Inc., New York City.
- O. F. Jordan Company, East Chicago, Ind.
- Kalamazoo Railway Supply Company, Kalamazoo, Mich.
- Kaustine Company, Inc., Reading, Pa.
- Kelly-Derby Company, Inc., Chicago.
- Kentucky Rock Asphalt Company, Louisville, Ky.
- Kerite Insulated Wire & Cable Co., Inc., New York City.
- Keystone Grinder & Manufacturing Co., Pittsburgh, Pa.
- Keystone Steel & Wire Company, Peoria, Ill.
- Layne-Bowler Company, Memphis, Tenn.
- Lehon Company, Chicago.
- Lorain Steel Company, Johnstown, Pa.
- Lufkin Rule Company, Saginaw, Mich.
- Lundie Engineering Corporation, New York City.
- McGraw-Hill Company, Inc., New York City.
- MacRae's Blue Book, Chicago.
- Magnetic Signal Company, Los Angeles, Cal.
- Maintenance Equipment Company, Chicago.
- Massey Concrete Products Corporation, Chicago.
- Mechanical Manufacturing Company, Chicago.
- Mercury Manufacturing Company, Chicago.
- Metal & Thermi Corporation, New York City.
- Miller Train Control Corporation, Danville, Ill.
- Morden Frog & Crossing Works, Chicago.
- Mudge & Company, Chicago.
- Murdock Mfg. & Supply Co., Cincinnati, Ohio.
- M. W. Supply Company, Philadelphia, Pa.
- National Boiler Washing Company, Chicago.
- National Carbon Company, Inc., Cleveland, Ohio.
- National Lead Company, New York City.
- National Lock Washer Company, Newark, N. J.
- National Malleable Castings Company, Cleveland, Ohio.
- National Vulcanized Fibre Company, Pittsburgh, Pa.
- George P. Nichols & Brothers, Chicago.
- Northwestern Motor Company, Eau Claire, Wis.
- Ogle Construction Company, Chicago.
- Ohio Brass Company, Mansfield, Ohio.
- Okonite Company, Passaic, N. J.
- Otto Engine Works, Chicago.
- Oxwell Railroad Service Company, New York City.
- Page Steel & Wire Company, Bridgeport, Conn.
- W. W. Patterson Company, Pittsburgh, Pa.
- P. & M. Company, Chicago.
- Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa.
- Pocket List of Railroad Officials, New York City.
- Portland Cement Association, Chicago.
- Positive Rail Anchor Company, Marion, Ind.
- Q. & C. Company, New York City.
- Rail Joint Company, New York City.
- Railroad Accessories Corporation, New York City.
- Railroad Supply Company, New York City.
- Railway Purchases & Stores, Chicago.
- Railway Review, Chicago.
- Ramapo-Ajax Corporation, Hillburn, N. Y.
- Rawls Machine & Manufacturing Co., Chicago.
- Reade Manufacturing Company, Jersey City, N. J.
- Regan Safety Devices Company, New York City.
- Reliance Manufacturing Company, Massillon, Ohio.
- Richards-Wilcox Manufacturing Company, Aurora, Ill.
- George J. Roberts Company, Dayton, Ohio.
- Roberts & Schaefer Company, Chicago.
- William Robertson & Company, Chicago.
- Sellers Manufacturing Company, Chicago.
- Sherwin-Williams Company, Cleveland, Ohio.
- Signal Accessories Corporation, Utica, N. Y.
- Simmons-Boardman Publishing Company, New York City.
- T. W. Snow Construction Company, Chicago.
- Southern Signal Company, Inc., Louisville, Ky.
- Templeton, Kenly & Company, Ltd., Chicago.
- Torchweld Equipment Company, Chicago.
- Track Specialties Company, New York City.
- Union Switch & Signal Company, Swissvale, Pa.
- U. S. Wind Engine & Pump Company, Batavia, Ill.
- E. L. Van Dresar, St. Paul, Minn.
- Verona Tool Works, Pittsburgh, Pa.
- Volkhardt Company, Inc., St. Paul, N. Y.
- Warren Tool & Forge Company, Warren, Ohio.
- Waterbury Battery Company, New York City.
- West Disinfecting Company, New York City.
- Western Electric Company, Inc., Chicago.
- Western Wheeled Scraper Company, Aurora, Ill.
- Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.
- William Wharton, Jr., & Co., Inc., Easton, Pa.
- Wood Shovel & Tool Company, Piqua, Ohio.
- Woolery Machine Company, Minneapolis, Minn.
- Wright Manufacturing Company, Lishon, Ohio.
- Wyoming Shovel Works, Wyoming, Pa.

### ASSOCIATE MEMBERS

- American Manganese Steel Company, Chicago Heights, Ill.
- Corning Glass Works, Corning, N. Y.
- Elliott Frog & Switch Company, East St. Louis, Ill.
- H. K. Ferguson Company, Cleveland, Ohio.
- Generator Valve Company, Brooklyn, N. Y.
- Gould Storage Battery Company, Chicago.
- Hobbs Storage Battery Corporation, San Francisco, Cal.
- Robert W. Hunt & Co., Chicago.
- Illinois Zinc Company, Peru, Ill.
- Inland Steel Company, Chicago.
- Lidgerwood Manufacturing Company, New York City.
- Pettibone-Mulliken Company, Chicago.
- Pyle-National Company, Chicago.
- Railroad Herald, Atlanta, Ga.
- Railroad, Water & Coal Handling Company, Chicago.
- Standard Underground Cable Company, Pittsburgh, Pa.

## Traffic News

The annual convention of the Passenger, Ticket and Freight Agents' Association of Texas will be held at San Antonio on January 19.

The Norfolk & Western, at its Lambert Point (Va.) piers, in the 24 hours ending at seven o'clock on the morning of January 1 dumped 899 cars of coal, an aggregate of about 61,500 tons. This is believed to be the world's record in operations of this kind.

The Southern Railway has issued a 31-page booklet entitled, "New Orleans, City of Old Romance and New Opportunity," illustrated with typical scenes of sugar cane and cotton plantations, the harbor and buildings of the city, views in parks, a French Quarter court yard, carnival parades and sketches of historical places.

Four special trains carrying \$12,000,000 worth of silk en route from Seattle, Wash., to New York passed through Chicago on January 2 and 3. The trains consisted of 46 baggage cars. The Great Northern and the Northern Pacific each hauled two trains from Seattle to St. Paul, whence they went over the Chicago, Burlington & Quincy and the Pennsylvania.

The Chicago & Eastern Illinois will place on sale around-the-world tickets commencing on January 27, the prices of which will range from \$870 up, including meals and berth on ocean steamer; liberal stopovers are allowed. Two years are allowed in which to complete the journey. Tickets will be issued to Pacific or Atlantic ports and on trans-Pacific and trans-Atlantic steamers.

"The Pittsburgher," the new night train of the Pennsylvania Railroad between New York and Pittsburgh, leaving New York at 11:40 p. m. and Pittsburgh at 11 p. m., beginning next Monday, is to run through in 9 hours 35 minutes, and there will be an extra fare charge of \$2.40. The present train, the Iron City Express, is to leave New York at 10:30 p. m., an hour earlier than under the present timetable, and will run through in 10 hours 17 minutes.

In the development of its freight terminals in the Chicago switching district, the Pere Marquette has purchased an interest in the leasehold of the Belt Railway, of Chicago, thereby becoming one of the owners of the yard at Clearing. It will also operate its own yard on the Belt railway at Rockwell street, from which road trains will operate. These facilities are in addition to its present arrangement for interchange with the Elgin, Joliet & Eastern at Porter, Ind.

The sixth hearing before the Interstate Commerce Commission on a petition for reductions in freight rates on grain and hay, the first of which was held at Kansas City on November 14, was held at Atlanta, Ga., on January 3. Those testifying included B. L. Bugg, receiver of the Atlanta, Birmingham & Atlantic; Richard I. Manning, former governor of South Carolina; Hugh McRae, Wilmington, N. C.; W. R. Cole, president of the Nashville, Chattanooga & St. Louis; M. M. Caskie, head of the transportation division of the Alabama Farm Bureau, and Professor G. W. Dyer, of Vanderbilt University.

In accordance with the proclamation issued by President Coolidge, an embargo immediately effective was issued on January 8 by the Car Service Division of the American Railway Association prohibiting the shipment by rail into Mexico from the United States of all arms and munitions of war except those authorized by the government of this country. The embargo is effective on all railroads. Copies of it were sent to them immediately. Under the provisions of the embargo, exceptions are made for the shipment to Mexico of arms and munitions of war as follows: Those on government bills of lading. Those authorized by proper military authorities. Those that are authorized to be exported into Mexico by authority of the Secretary of State.

Two hundred million dollars is the sum estimated by the automobile manufacturers as the aggregate amount of freight charges

paid to the railroads of this country during 1923 for the transportation of new automobiles—750,000 carloads of them, including carloads of tires and other parts (540,000 cars of assembled automobiles and 210,000 cars of parts). This statement was made by J. S. Marvin, general traffic manager of the National Automobile Chamber of Commerce, in opening the conference of freight traffic managers of the industry at Detroit, Mich., on December 20. More than a million machines have been driven over the highways to destination by dealers and 80,000 shipped by boat. Notwithstanding the great increase in this traffic, reports indicated that railroads have this year maintained a more adequate supply of freight cars at the factories than ever before.

About 150 representatives of shippers and distributors with operating and traffic representatives of the railroads met in New York City on January 3 to organize a Regional Advisory Board for the Middle/Atlantic Coast States. R. H. Aishton, M. J. Gormley and E. J. Cleave were present. Donald D. Conn, manager of the Public Relations Section of the Car Service Division of the American Railway Association, opened the meeting, outlining the purposes and previous history of such boards. He reminded the merchants that such an organization will not interfere with the relationships of a shipper and his railroad, or a shipper and a group of railroads, but will serve as the missing link between the relationships of a shipper and his railroad, and of that shipper with the Car Service Division or the I. C. C. It is an absurdity that so many of our problems must be handled from the seat of government. In the early days shippers and carriers got along together all right, because of the lack of government. Today we find ourselves setting up the machinery to revive these old relationships, not because of the lack of government, but in spite of too much of it.

### Freight Commodity Statistics

The Interstate Commerce Commission has issued a statement showing by districts the freight tonnage transported by Class I steam railways for the quarter ended September 30, 1923. Below will be found a comparison, by general classes of commodities, of the tonnage transported during the third quarter in 1923 with the corresponding period in 1922:

Classes of commodities	Number of tons originated		
	Quarter ended Sept. 30, 1922	Quarter ended Sept. 30, 1923	Per cent of increase 1923 over 1922
Products of agriculture.....	28,135,979	26,685,646	*5.15
Animals and products.....	6,473,191	6,924,133	6.97
Products of mines.....	138,830,945	205,254,449	47.84
Products of forests.....	22,539,851	28,494,514	26.42
Manufactures and miscellaneous	61,955,035	68,762,512	10.99
Merchandise—all L.C.L. traffic.	11,020,382	11,201,865	1.65
Total .....	268,955,383	347,323,119	29.14
Total tons carried			
Products of agriculture.....	52,584,337	51,294,999	*2.45
Animals and products.....	11,015,159	11,992,358	8.87
Products of mines.....	227,565,940	349,028,554	53.37
Products of forests.....	42,429,882	54,209,791	27.76
Manufactures and miscellaneous	116,425,428	133,014,498	14.25
Merchandise—all L.C.L. traffic.	17,879,418	18,723,004	4.72
Total .....	467,900,164	618,263,204	32.14

\*Decrease.

### Commodity Prices in Their Relation to Transportation Costs

The Bureau of Railway Economics has issued the first of a series of bulletins presenting the results of a study of the relationship between the prices received by the producer of wheat, corn and oats and the freight rates on these commodities to markets. "The results of this study," the bulletin says, "tend to show that in marketing commodities such as wheat, corn and oats, where supply and demand is the measure of competition and where freight rates do not change, the fluctuation of farm prices upward and downward is due entirely to causes beyond the influence of local freight costs. It is found that the price paid to the producer for wheat, corn and oats is predicated upon grades largely determined by the local buyer at the point of shipment and that there is a marked fluctuation in the prices paid to the producer for the various local grades. The bulletin says that there does not exist, with certain exceptions, a method of distribution for these products by means of which the farmer is paid for his

product on the basis of the same grades as the product is afterwards sold upon in the larger marketing centers. The fluctuations in prices paid to the producer in the period under investigation have not been influenced by the freight rate, because the fluctuations in prices paid to the producer, while the freight rate remained stationary, have occurred not only upon the same grade at different points and on different days, but also have taken place on the same grade at the same points on the same day. Grain is being sold by the producer in many instances on grades which lose their identity, both before and after they reach the primary market.

The bulletin supports its conclusions by voluminous quotations and comparisons of prices of wheat and cost of freight in Minnesota, Kansas, North Dakota and other states; of corn in Nebraska, Illinois and elsewhere; and of oats in the principal oat-growing states.

#### Western Roads and Shippers Plead for Lower Freight Rates to Pacific Coast

At a three-day hearing before Examiner Pattison, of the Interstate Commerce Commission at Chicago, commencing January 2, western roads submitted testimony to support their application for fourth section relief and permission to reduce rates from Chicago and points west to the Pacific coast as proposed under Trans-continental Freight Bureau application No. 26, I. C. C., docket No. 12436.

Edward Chambers, vice-president of the Atchison, Topeka & Santa Fe, opened the presentation of the carriers' case by pointing out how steamship companies using the canal are building up the Atlantic seaboard at the expense of interior cities. H. E. Byram, president of the Chicago, Milwaukee & St. Paul, testified to the effect that trans-continental lines are not earning sufficient revenue to give them the return they are entitled to under the Transportation Act, and stated his belief that if the carriers were permitted to establish the freight rates now asked for, they would be able to secure additional tonnage, which can be handled with little additional expense since it will involve little or no extra train mileage. W. H. Finley, president of the Chicago & North Western argued for the right of the manufacturers in the Central West to be permitted to compete with manufacturers located along the Atlantic coast. Others testifying were H. G. Toll of the Trans-continental Freight Bureau, S. H. Johnson, vice-president of the Chicago, Rock Island & Pacific, and L. E. Wetting, statistician for the Western railways.

The Chicago Association of Commerce and 19 other chambers of commerce in the West were represented by J. T. Haynes, traffic director of the Chicago Association of Commerce who stated that if early and substantial relief is not granted production will decline and the currents of trade will be changed.

The testimony of the intermountain interests will be taken at Salt Lake, Utah, on January 14, Butte, Mont., January 17, Boise, Idaho, January 19, Spokane, Wash., January 21, Portland, Ore., January 23, Reno, Nev., January 28 and San Francisco, Cal., January 29.



Missouri-Kansas-Texas Passenger Station, San Antonio, Tex.

## Commission and Court News

### Interstate Commerce Commission

#### Divisions of Freight Rates in Western and Mountain-Pacific Territories

Commissioner Mark W. Potter, of the Interstate Commerce Commission, to whom has been assigned the investigation recently ordered by the commission in the matter of divisions of freight rates in Western and Mountain-Pacific territories and who will be assisted by Attorney-Examiner Disque, has addressed a letter to the respondent railroads expressing some doubt as to the best method of procedure and raising the question whether respondents could make an endeavor to work out a satisfactory settlement of the transcontinental situation among themselves in co-operation with Mr. Disque and himself with a view to avoiding a formal hearing. He suggests that the railroads as a preliminary send to Washington by March 3 all available data of a primary nature relating to each respondent, such as for example:

(1) Distance by your line to Missouri River crossings, St. Paul, etc.; (2) distance by your line Missouri River to Pacific Coast terminal, etc.; (3) tons freight delivered by you to important connections at junctions named, destined for Pacific Coast, October-December, 1922; same 1923; (4) (from western lines) similar data, eastbound; (5) volume of freight traffic on those parts of your line forming link in transcontinental routes; (6) revenues and ton-mile revenue for same 3-months period on Pacific Coast freight; (7) your operating ratio, and your net return on book value, year 1923; (8) brief statement of operating conditions, etc.

Further, Mr. Potter asks:

What is the history and the basis for the present divisions?

Why should the present divisions be changed?

Why should the present divisions not be changed?

Should the rates be divided on a mileage pro-rate?

Should the rates be divided on a mileage pro-rate after deducting certain terminal expenses or after making allowances for these and other terminal expenses?

### Personnel of Commissions

The new year found the Interstate Commerce Commission with two temporary vacancies, owing to the failure of the Senate to confirm before the end of the year the appointments of Mark W. Potter and Frank McManamy. Mr. Potter's term expired on December 31 and Mr. McManamy was serving under a recess appointment. The Senate committee on interstate commerce, to which the nominations were referred by the Senate, has not held a meeting because of the deadlock in the Senate over the election of a chairman. In the past when the Senate has delayed action on the confirmation of a reappointment of one of the commissioners, the commission has followed the practice of appointing them as special examiners until the Senate could act. Officers of the organizations of commercial travelers have been trying to stir up opposition among some of the senators to Commissioner Potter's reappointment.

### Court News

#### Right of Recovery for Land Taken by Railroads Remains in Owner at Time of Taking

The vendee of land, upon which a railroad company has entered, takes such land subject to the burden of the railroad; and the right of payment by the railroad company, if it entered under an agreement to pay, or to damages if the entry was unauthorized, belongs to the owner of the land at the time the railroad took possession, and does not pass to the grantee under a deed subsequently made, unless expressly conveyed therein.—*Peckham v. Atchison, T. & S. F. (Okla.) 212 Pac. 427.*

## Labor News

The strike of shopmen on the Chicago, Burlington & Quincy, which began on July 1, 1922, has been officially terminated by the Railway Employees' Department, American Federation of Labor. No settlement with the employees was made by the management of the Burlington.

The officers of the New York Central conferred with representatives of the Brotherhood of Locomotive Engineers and of the firemen's brotherhood in New York City on January 3, concerning the request of the employees for increases in pay, resuming negotiations which began on December 4 and were intermitted about two weeks ago.

Railway employees, members of the Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express & Station Employees, at Boise, Idaho, have adopted a resolution condemning the attitude of senators and congressmen in criticizing the railroads unjustly. The union, the resolution declares, notes "with apprehension and deep regret the attitude assumed by certain senators and representatives in the Congress of the United States, and more particularly our own senator, Frank R. Gooding, against the railroad system of our country."

### Canadian Maintenance Employees Favor Strike

Press reports from Canada indicate that the returns so far received in the strike vote now being taken by the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers of the Canadian roads show that a large majority of the men favor a strike. Suspension of work is favored by 95 per cent of the men who have already voted, according to reports of a statement by H. Woods, general chairman of the brotherhood for the Canadian National. The taking of a strike vote came as a result of the refusal of the railway management to grant the wage increase recommended by the Board of Conciliation and Investigation. A report of the situation was given in the *Railway Age* of December 22, page 1179. It is expected that the balloting will be completed by January 20.

### Labor Board Sustains S. P. & S.

#### in Reduction of Wages

The Labor Board has approved the action of the Spokane, Portland & Seattle in reducing the wages of its supervisory forces in the mechanical department in accordance with Decision No. 147 of the Labor Board, in which the road was not included. The Labor Board, in its decision, took into consideration the fact that the Spokane, Portland & Seattle is owned by the Great Northern and the Northern Pacific and that it has fixed the wage rates for its employees in accordance with those on the roads owning it. The International Association of Railroad Supervisors of Mechanics, which claims to represent the supervisory forces, declared that the reduction had been ordered without conferences with representatives of the employees. The management, however, claimed that there were no authorized representatives of the supervisors at that time and the Labor Board upheld this contention.

### Train and Enginemen Continue

#### Move for Wage Increases

The action of the Chicago, Rock Island & Pacific in signing a contract with the Brotherhood of Locomotive Engineers, calling for no change in rules and wages for the next year, will have no bearing on negotiations with other roads, according to the executive officers of the brotherhoods. Warren S. Stone, president of the Brotherhood of Locomotive Engineers, declared that engineers on the Rock Island had not asked for an increase so that the contract signed by members of his brotherhood should not be taken as indicating that the engineers are willing to continue on the present wage basis on other roads.

"The engineers' brotherhood this year made no concerted wage

demand and allowed the organization on each road to handle its own problem," Mr. Stone said. Negotiations with the New York Central were to be resumed on January 3. Representatives of the other three train and engine service brotherhoods were to resume their conferences with the New York Central at about the same time. D. B. Robertson, president of the Brotherhood of Locomotive Firemen & Enginemen, who is acting jointly with the Brotherhood of Locomotive Engineers in seeking wage increases, explained that his organization had not settled with the Rock Island and had asked increases in wages on that line.

## Labor Board Decisions

### Erie Violates Decision

The Labor Board has found that the Erie has violated Decision No. 721, handed down in a dispute between the road and the American Train Dispatchers' Association.—*Decision No. 2074*.

### Interpretation of Decision

Rule 64 of Decision No. 1621, requires that all service performed on the seven holidays specified in the rule be paid for at time and one-half rates. When an employee is required to work on his assigned day off duty, he will be paid at the rate of time and one-half; when such assigned day off to be is not Sunday, work on Sunday will be paid for at straight time rate. This rule applies only to Sundays, and not to the other holidays.—*Interpretation No. 1, Decision No. 1621*.

### Compensation of Yard Enginemen

In a dispute between the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen and the Kentucky & Indiana Terminal, the Railroad Labor Board has ruled that yard engineers and firemen involved in the dispute shall have their compensation computed from the time they were required to report for duty until they were released from duty, computations to be made from March 1, 1920. The dispute involved a claim for preparatory time for yard engineers and firemen.—*Decision No. 2062*.

### Installation of Stokers Denied

The Labor Board has remanded to the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen and the Chicago, Indianapolis & Louisville, a dispute over the necessity of employing two firemen on certain engines operated by the road. The board denied the request that it order the installation of mechanical stokers on such engines. The employees requested that locomotives weighing from 170,000 lb. to 279,000 lb. on the drivers be equipped with mechanical stokers or that two firemen be assigned to such engines.—*Decision No. 2069*.

### Pennsylvania Employee Representation

The Labor Board has ordered that a member of the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers, who claims to represent such employees on the Pennsylvania, as secretary and treasurer of the system division, and who was denied recognition by the Pennsylvania, is entitled to leave of absence and system transportation for the purpose of carrying on his work as representative of the employees. This had been refused by the road on the grounds that the employee in question was not the authorized representative of the maintenance of way employees.—*Decision No. 2073*.

### Pooling of Messenger Runs

In a dispute between the American Railway Express Company and the Brotherhood of Railway and Steamship Clerks over a claim by the employees for the reinstatement and compensation of a messenger whose services were discontinued when runs between Nashville, Tenn., and Atlanta, Ga., were pooled with runs between Chattanooga, Tenn., and Nashville and Atlanta, the Labor Board denied the claim of the employees. In its decision, the board stated that the evidence presented did not indicate that the reduction in messengers and the increase in hours described was made for the purpose of offsetting the intent of the rules of the agreement.—*Decision No. 2057*.

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## Equipment and Supplies

### Locomotives

THE GEORGIA, FLORIDA & ALABAMA has ordered two Decapod-type locomotives from the Baldwin Locomotive Works.

THE CANADIAN PACIFIC has ordered 15 Mikado type locomotives from the Montreal Locomotive Works.

### Freight Cars

PACIFIC FRUIT EXPRESS.—See Southern Pacific.

THE PENNSYLVANIA is inquiring for 3,000 automobile box car bodies.

THE NORTHERN PACIFIC has ordered 1,000 underframes from the Pressed Steel Car Company.

THE SEABOARD AIR LINE is asking for prices for rebuilding about 290 wood underframe flat cars of 30 tons' capacity.

THE MESABI IRON COMPANY, 25 Broad street, New York City, is inquiring for from 10 to 30 dump cars of 30-yd. capacity.

THE CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS is inquiring for prices on the conversion of from 250 to 700, 30-ton box cars to 40-ton stock cars.

THE NASSAU SAND & GRAVEL CO., Port Washington, Long Island, N. Y., has ordered 2 all steel hopper cars of 30 tons' capacity from the Magor Car Corporation.

THE LEHIGH VALLEY has given an order to the American Car & Foundry Company for making repairs to 200 cars in addition to the 200 noted in the *Railway Age* of December 1.

THE GOODWIN, GALLAGHER SAND & GRAVEL CO., Port Washington, Long Island, N. Y., has ordered 12 all-steel hopper cars of 30 tons' capacity from the Magor Car Corporation.

THE FRUIT GROWERS EXPRESS, reported in the *Railway Age* of January 5 as having ordered 1,000 steel underframes for refrigerator cars, placed the order for 500 of these underframes with the Pressed Steel Car Company.

THE SOUTHERN PACIFIC, reported in the *Railway Age* of December 8 as inquiring for 3,057 refrigerator cars for the Pacific Fruit Express, has placed orders for this equipment as follows: Standard Steel Car Company, 800 cars; The Pullman Company, 800; General American Car Company, 500, and Pacific Car & Foundry Company, 957.

### Passenger Cars

THE PIEDMONT & NORTHERN is inquiring for 4 combination passenger and baggage motor cars.

THE MONTREAL TRAMWAYS, Montreal, Que., are inquiring for from 15 to 25 motor cars and from 15 to 25 trailer cars.

THE GREAT NORTHERN is in the market for eight dining cars. The company expects to place the order for these cars this week.

THE CUBA RAILROAD has ordered 2 first class coaches and 5 second class coaches 70 ft. long, from the American Car & Foundry Co.

THE CUBA NORTHERN has ordered 6 second class coaches, 63 ft. long, and 1 combination baggage and mail car from the American Car & Foundry Co.

### Iron and Steel

THE CENTRAL RAILROAD OF NEW JERSEY is inquiring for 8,000 tons of structural steel.

THE INTERNATIONAL-GREAT NORTHERN has ordered 8,000 tons of 90-lb. rail from the Tennessee Coal, Iron & Railroad Co.

THE PENNSYLVANIA has ordered 5,000 tons of structural steel from the Bethlehem Steel Corporation.

THE LOUISVILLE & NASHVILLE is inquiring for 1,300 tons of structural steel for use at New Orleans, La.

THE NEW YORK CENTRAL has ordered 2,250 tons of structural steel from the McClintic Marshall Company and 250 tons from the Bethlehem Steel Corporation.

THE BALTIMORE & OHIO has ordered 2,000 tons of steel for bridges from the Ft. Pitt Bridge Works. This road recently received bids on 700 tons additional.

THE GREAT NORTHERN has ordered 950 tons of structural steel for repairs to bridges, 443 tons for grade separation at Monroe street and 19th avenue, Minneapolis, Minn., and 1,283 tons for miscellaneous bridges in Minnesota, North Dakota and Montana from the American Bridge Company.

### Machinery and Tools

THE PULLMAN COMPANY has placed orders for three car wheel borers.

THE CHICAGO, BURLINGTON & QUINCY has placed an order for a 42-in. planer.

THE CHICAGO GREAT WESTERN has placed an order for a 66-in. vertical milling machine.

THE SOUTHERN RAILWAY, reported in the *Railway Age* of December 22 as inquiring for a number of machine shop tools, has placed orders for about 50 tools.

THE GREAT NORTHERN is inquiring for one 48-in. bevel gear boring mill with two heads on cross rail, belt driven; one 3,000-lb. single frame steam hammer; one 48-in. heavy duty car wheel boring mill; one 9-ft. radial drill; one horizontal punch with 30-in. throat; one 1½-in. double head bolt cutter to be motor driven, and one alligator shear to cut 2-in. round iron.

### Miscellaneous

THE WESTERN MARYLAND is inquiring for one scale test car.

THE PAWLING & HARNISCHFEGER COMPANY, Milwaukee, Wis., has received an order from the Long Bell Lumber Company, Long View, Wash., for 21 cranes and hoists and 7,000 ft. of P & H special monorail track with seven two-way switches. The order includes one 3-ton 15-ft. span cant handling crane; one 10-ton capacity 76-ft. span timber crane; three monorail hoists of 4-ton capacity; three 20-ton 22-ft. span transfer cars; one 5-ton 75-ft. span crane and one 5-ton 65-ft. span crane; three 5-ton 75-ft. span cranes; one 10-ton 56-ft. 6-in. span crane; one 5-ton 27 ft. span crane; two 4-span monorail hoists, also four 5-ton 75ft. span cranes.

### Signaling

THE CHICAGO, INDIANAPOLIS & LOUISVILLE has placed an order with the Sprague Safety Control & Signal Corporation for the installation of automatic train control between Fair Oaks, Ind., and Rensselaer, a distance of 10 miles.

REFERENCE was made in the *Railway Age* of December 22, page 1169, to the effect that the Bureau of Safety of the Interstate Commerce Commission is participating with the United States Bureau of Standards, the Engineering Division of the American Railway Association, the steel manufacturers and the Joint Committee on Stresses in Track in an exhaustive investigation of transverse fissures in steel rails. While representatives of the Bureau of Safety attended the initial conference of these organizations called by the Bureau of Standards at Washington, D. C., on September 28, it has since decided not to join in these investigations. The Bureau of Safety will proceed with its studies independently.

## Supply Trade News

Fred M. Ball has been appointed district manager of the Franklin Railway Supply Company, Inc., with headquarters at Philadelphia, Pa. Since 1920 Mr. Ball has served as resident inspector at the Baldwin Locomotive Works for the Franklin Railway Supply Company, Inc.

Glenn A. Wilson has been appointed manager of the Gibb Instrument Company, Bay City, Mich., for New York and New England territory, with headquarters at 120 Liberty street, New York City. Mr. Wilson formerly represented the Mutual Electric & Machine Co.

The Bureau of the Census is now engaged in collecting statistics of manufactures covering the calendar year 1923. The schedules have been prepared after conference with various industries, and have been mailed to the manufacturers. The Director of the Census is anxious to publish the statistics at the earliest possible date and requests the prompt return of all reports. If reports are not made by mail it will be necessary for the government to go to the expense of sending a special agent to the various establishments.

Victor R. Willoughby, acting general mechanical engineer of the American Car & Foundry Co., has been appointed general mechanical engineer, in charge of the engineering section and J. A. V. Scheckenbach has been appointed general improvement engineer, in charge of the improvement and research section; both with headquarters at New York City. Victor R. Willoughby was born in Michigan and graduated from the University of Michigan in 1896, with the degree of B. S. and M. E. He began work with the Michigan-Peninsular Car Company in 1897 at the old Michigan plant. He served in 1899 at St. Louis as chief draftsman of the American Car & Foundry Co., and in 1901 at St. Charles in the passenger car department. In 1905, he served at Jeffersonville as mechanical engineer, and in 1917 at Detroit in the World War organization as assistant manager of artillery and later in the shell departments. In 1920 he was transferred to New York as assistant general mechanical engineer; since 1922 he served as acting general mechanical engineer until his recent appointment as general mechanical engineer as above noted.

Ralph H. Bogle, formerly sales manager of the Reade Manufacturing Company, Jersey City, N. J., has resigned to organize the R. H. Bogle Company with headquarters in the Harrison Building, Philadelphia, Pa., to manufacture, distribute and apply chemical weed killer for railway purposes. Mr. Bogle was born on September 12, 1888, and from 1907 to 1915 held various positions covering such activities as real estate, insurance, advertising, managerial, etc. In the latter year he became employed in the traffic department of the New York Central remaining in this connection for one year, when he entered the service of the Atlas Preservative Company and continued with its successor after reorganization, the Chipman Chemical Engineering Company, as a salesman and application superintendent. In 1917 he became associated with the Reade Manufacturing Company in the development of a railroad sales department for chemical weed killer. The new R. H. Bogle Company will concentrate in the railway field.



R. H. Bogle

## Railway Construction

ATCHISON, TOPEKA & SANTA FE.—This company will proceed at once with the construction of second track from Summit, Cal., to Hicks, a distance of 44 miles, reported in the *Railway Age* of November 24.

CHICAGO GREAT WESTERN.—This company contemplates the construction of a bridge across the Missouri river at Leavenworth, Kan., at an estimated cost of \$1,000,000. Plans for the bridge include sections for highway and foot traffic.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—This company has awarded a contract to the T. S. Leake Construction Company, Chicago, for the construction of an ice-house at Hammond, Ind., to cost approximately \$25,000.

CHICAGO, ROCK ISLAND & PACIFIC.—This company plans the construction this year of 13 miles of second track from Volland, Kans., to Dwight, and from McFarland, Kans., to Alma, four miles.

LOUISVILLE & NASHVILLE.—This company plans the construction of second track from Montgomery, Ala., to Catoma, a distance of five miles, at a cost of approximately \$250,000.

SOUTHERN.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the construction of a cut-off line in Knoxville, Tenn., of 2.93 miles.

SOUTHERN PACIFIC.—This company has awarded a contract to the Utah Construction Company, San Francisco, Cal., for the construction of the third section of the Natron cutoff, the line between Eugene, Ore., and Klamath Falls, reported in the *Railway Age* of November 17.

SOUTHERN PACIFIC.—This company has awarded a contract to the Stewart & Welch Company, Seattle, Wash., for the construction of approximately seven miles of track and the summit tunnel on the Natron cut-off, between Eugene, Ore., and Klamath Falls, reported in the *Railway Age* of November 17.

SOUTHERN PACIFIC.—This company has closed bids for the reconstruction of a passenger station and the erection of a building for an express office at Lindsay, Cal.

WABASH.—This company plans the construction of new shops and yard two miles west of Peru, Ind., at an estimated cost of \$1,000,000, to replace the present facilities at Peru.



A Typical Station on the Anatolian Railway, Turkey

## Railway Financial News

**ANN ARBOR.—Asks Authority for Equipment Trust Certificates.**—This company has applied to the Interstate Commerce Commission for authority to issue \$840,000 of equipment trust certificates to be sold at 96 to Freeman & Co., and \$250,000 of subordinated equipment trust certificates to be delivered to the Standard Tank Car Company.

**ATCHISON, TOPEKA & SANTA FE.—Lease of Grand Canyon Railway.**—The lease of the Grand Canyon Railway, a line from Williams, Ariz., to Grand Canyon, for a period of 10 years by the Atchison, Topeka & Santa Fe, has been approved by the Arizona Corporation Commission.

**CHICAGO & NORTH WESTERN.—Authorized to Draw Down Bonds.**—The Interstate Commerce Commission has authorized this company to procure authentication and delivery of \$3,150,000 of general mortgage gold bonds of 1987 to be held in the treasury until further order of the commission.

**CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—Asks Authority to Guarantee Bonds.**—This company has applied to the Interstate Commerce Commission for authority to assume obligation and liability in respect of two issues of bonds of the city of Cincinnati amounting to \$500,000 as increased rental for the property of the Cincinnati Southern, including the interest as due and an additional 1 per cent for sinking fund. The bonds are to be issued to provide for the completion of terminal facilities and betterments.

**COLORADO & SOUTHERN.—Authorized to Acquire Control.**—This company has been authorized by the Interstate Commerce Commission to procure authentication and delivery of \$436,000 of its refunding and extension mortgage 4½ per cent gold bonds and to acquire control of the Wichita Falls & Oklahoma Railroad by purchase of its stock. The Wichita Falls & Oklahoma Railway is also authorized to issue \$6,000 of common stock and \$96,500 of first mortgage 6 per cent gold coupon bonds and the Wichita Falls & Oklahoma Railroad is authorized to issue \$7,500 of stock and \$326,000 of first mortgage 6 per cent gold coupon bonds to be sold to the Colorado & Southern at par.

**DENVER & RIO GRANDE WESTERN.—Pays Interest.**—Federal District Judge J. Foster Symes, at Denver, Col., on January 2 formally accepted the offer of holders of defaulted second mortgage bonds to advance \$1,500,000 to pay \$1,129,000 interest due yesterday on \$81,000,000 of underlying first mortgage bonds and other interest due before May 31. Holders of the second mortgage bonds will be given receiver's certificates, now being issued, in return for the \$1,500,000. These certificates will be junior to those outstanding. Judge Symes' acceptance of the interest-paying loan today prevents foreclosure proceedings which would have arisen in event of default.

**DENVER & RIO GRANDE WESTERN.—State Asks Reopening of Reorganization Case.**—The state of Colorado, through its attorney general and the state railroad commission, has filed with the Interstate Commerce Commission a petition for a rehearing and rearrangement of the case in which the commission recently authorized the issue of securities in connection with the proposed plan of reorganization.

**EL PASO & SOUTHWESTERN.—Authorized to Acquire Direct Control of Subsidiaries.**—The Interstate Commerce Commission has issued an order authorizing the acquisition, through exchange of securities, of direct control by the El Paso & Southwestern Company, of the Dawson Railway, El Paso & Rock Island, El Paso & Northeastern Railway, the Alamogordo & Sacramento Mountain, and the El Paso & Northeastern Railroad, which are now controlled indirectly. Authority was also granted to the El Paso & Southwestern Railroad to issue \$12,570,000 of capital stock and \$11,914,000 of its first and refunding mortgage bonds in exchange for the stock and bonds of the subsidiaries of the El Paso & Southwestern Company, and acquisition and direct control by lease. The securities are also to be used in part payment for equipment to be purchased from the El Paso & South-

western Company. The Southwestern Company proposes to transfer its equipment to the Southwestern Railroad, retire from operation and continue merely as a holding company. It is expected that it will require several years to complete the exchange of securities and carry out the other transactions proposed. In the meantime, however, it is proposed that the Southwestern shall take over the operation of all the properties of the system.

**GRAND CANYON RAILWAY.—Lease of Line by Santa Fe.**—See Atchison, Topeka & Santa Fe.

**LEHIGH VALLEY HARBOR TERMINAL.—Bonds Sold.**—The First National Bank and Drexel & Co. have sold at 95½ and interest to yield 5.30 per cent, \$10,000,000 first mortgage 5 per cent bonds, due in 1952. They are guaranteed as to the principal and interest by the Lehigh Valley Railroad.

**LEHIGH VALLEY.—Trustees Appointed.**—Federal Judge Learned Hand on January 8 signed an order appointing four trustees to exercise certain rights specified in the dissolution decree in relation to the capital stock of the Lehigh Valley Coal Company, and Coxe Brothers & Co., Inc. The trustees for the Lehigh Valley Coal Company are William Potter and the Girard Trust Company of Philadelphia; the trustees for Coxe Brothers, Inc., are Thomas R. Marshall of Columbia, Ind., and James Neale, Jr. of Minersville, Pa. The order provides that if there should come any disagreement among the members of the groups in the exercise of the duties imposed upon them as trustees, that application for advice shall be made to the court.

E. E. Loomis, president of the Lehigh Valley, in a letter to the preferred stockholders, dated January 1, said that definite progress has been made in the matter of segregating the company's coal and railroad properties.

**MINNEAPOLIS & ST. LOUIS.—Interest Payments.**—The Federal Court at Minneapolis has ordered the receiver of this road to pay coupons due January 1 on the Des Moines & Ft. Dodge first mortgage bonds. Back coupons that have not been presented will also be paid. The court has also instructed the receiver to pay December 1 interest on the \$950,000 outstanding Merriam Junction 7s, December 1 interest on the \$7,650,000 Iowa Central first mortgage 5s and November 1 coupons on the \$5,282,000 first consolidated 5s. Current interest on equipment trusts is being taken care of. Excluding the \$1,382,000 government loan, interest on the only three issues outstanding of Minneapolis & St. Louis, totaling \$24,485,956, is not being paid.

**PERE MARQUETTE.—Authorized to Sell Bonds.**—The Interstate Commerce Commission has authorized this company to sell \$6,064,000 of first mortgage 5 per cent gold bonds at not less than 90 or to pledge or repledge the bonds from time to time.

**PERE MARQUETTE.—New Director.**—M. L. Bell, vice-president and general counsel of the Rock Island lines, has been appointed a director and member of the executive committee of the Pere Marquette. Mr. Bell's appointment has been approved by the Interstate Commerce Commission.

**SOUTHERN.—Authorized to Issue Bonds.**—This company has been authorized by the Interstate Commerce Commission to issue \$1,025,000 of first consolidated mortgage bonds to be sold at not less than 92 and accrued interest and the proceeds used in retiring certain prior lien bonds.

**ULSTER & DELAWARE.—Operating Revenues for Ten Months.**—The total operating revenues for the ten months ended October 31, 1923, amounted to \$1,541,397, instead of \$15,413,397 as was incorrectly given on page 1131 of the *Railway Age* of December 15, 1923.

### Dividends Declared

**Atchison, Topeka & Santa Fe.**—Common, 1½ per cent, quarterly, payable March 1 to holders of record January 25.  
**Nashville, Chattanooga & St. Louis.**—3½ per cent, semi-annually, payable February 1 to holders of record January 19.

**Troy Union.**—6 per cent, payable January 15 to holders of record December 28.

### Trend of Railway Stock and Bond Prices

	Jan. 8	Last Week	Last Year
Average price of 20 representative railway stocks .....	61.51	60.25	64.35
Average price of 20 representative railway bonds .....	82.90	82.16	85.56

## Railway Officers

### Executive

**L. E. Hoffman** has been appointed assistant to the vice-president in charge of operation of the St. Louis-Southwestern, with headquarters at St. Louis, Mo., a newly created position.

**F. A. Peil**, assistant to the receiver of the Denver & Rio Grande Western, with headquarters at Denver, Colo., has been appointed executive assistant to the receiver, with the same headquarters. **R. K. Bradford** has been appointed operating assistant to the receiver, with headquarters at Denver.

**E. P. Vernia**, whose election as vice-president in charge of traffic of the Chicago, Indianapolis & Louisville, with headquarters at Chicago, was reported in the *Railway Age* of December 22, was born on July 23, 1875, at New Albany, Ind. He entered railway service in September, 1892, in the local freight office of the Chicago, Indianapolis & Louisville at Louisville, Ky. In June, 1893, he was promoted to chief clerk and cashier in the local freight office at New Albany and in January, 1900, he was promoted to agent. In May, 1904, Mr. Vernia was promoted to agent and general yard master in charge of the terminal and he held this position until October, 1914, when he was promoted to division freight agent with headquarters at Bedford, Ind. He was transferred to Louisville, Ky., in March, 1919, and he held this position until March 1, 1920, when he was promoted to general freight agent, with headquarters at Chicago. Mr. Vernia served in this capacity until his recent election to vice-president in charge of traffic.

**H. T. Evans**, whose election as vice-president and controller of the Chicago, Indianapolis & Louisville, with headquarters at Chicago, was reported in the *Railway Age* of December 22, was born on February 2, 1874, at St. Clair, Pa. He entered railway service in 1888 in the accounting department of the Kansas City, St. Joseph & Council Bluffs, now a part of the Chicago, Burlington & Quincy. In July, 1897, he was promoted to traveling auditor and in August, 1899, to chief clerk in the auditor's office. When the Kansas City, St. Joseph & Council Bluffs was consolidated with the Chicago, Burlington & Quincy in 1904, Mr. Evans was transferred to Chicago as chief clerk to the auditor of expenditures. He was promoted to auditor of expenditures in May, 1907, and held this position until June, 1911, when he was appointed auditor of the Chicago, Indianapolis & Louisville. Mr. Evans was promoted to controller on December 1, 1920, and he held this position until his recent election to vice-president and controller.

**J. E. Hutchison**, whose election as vice-president in charge of operation of the St. Louis-San Francisco was reported in the *Railway Age* of December 29, was born on September 28, 1860, at Washburn, Ill. He entered railway service in March, 1874, as a telegraph operator on the Chicago & Alton, being subsequently promoted to station agent and train despatcher. In March, 1881, he was appointed train despatcher on the Denver & Rio Grande, and he remained in that position for one year. In March, 1882, he left railroad service for a few months but later returned to the Chicago & Alton as train dispatcher. In 1886, Mr. Hutchison was appointed train dispatcher for the Union Pacific at Denver, but a year later he again returned to the Chicago & Alton in the same capacity. He was later promoted to chief dispatcher and trainmaster and in March, 1903, he was appointed trainmaster on the St. Louis-San Francisco. He was promoted to superintendent of terminals at Kansas City, Mo., in July, 1904, and in June, 1906, was promoted to division superintendent of the Northern division. Mr. Hutchison was promoted to general superintendent on August 21, 1907, and he held this position until March 1, 1920, when he was promoted to general manager. He continued in this position until his recent election as vice-president in charge of operation.

### Financial, Legal and Accounting

**W. H. Wilson**, assistant controller of the Norfolk & Western, with headquarters at Roanoke, Va., has been promoted to controller, with the same headquarters, succeeding **J. W. Coxe**, who has retired.

**T. W. Burtress**, whose election as secretary of the Chicago, Milwaukee & St. Paul, with headquarters at Milwaukee, Wis., was reported in the *Railway Age* of December 29, was born on August 11, 1887, at Chicago. After attending Northwestern University, Mr. Burtress entered railway service in August, 1902, as an office boy in the car record department of the Chicago, Milwaukee & St. Paul. Shortly after he was promoted to junior clerk in the office of the freight auditor, and on July 5, 1905, he was transferred to the office of the general auditor. In September, 1915, he was promoted to chief clerk to the general auditor and he continued in this position until August, 1916,

when he was appointed chief clerk to the president. On December 31, 1922, Mr. Burtress was promoted to office assistant to the president, in which capacity he remained until his recent election as secretary, with headquarters at Milwaukee.

**R. N. Van Doren**, whose promotion to general solicitor of the Chicago & North Western was reported in the *Railway Age* of December 29, was born on January 11, 1878, in Oshkosh, Wis. After graduating from the University of Wisconsin in 1898, he engaged in the general practice of law. Mr. Van Doren entered railway service on January 1, 1917, as Wisconsin attorney for the Chicago & North Western. In May, 1918, he was transferred to Omaha, Nebr., as Nebraska attorney and he continued in this position until July 1, 1918, when he was promoted to general attorney of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn. In addition to this position,

he also served as Minnesota attorney for the Chicago & North Western. On January 1, 1919, Mr. Van Doren was transferred to Milwaukee, Wis., as Wisconsin attorney and he held this position until July 1, 1921, when he was promoted to assistant general solicitor, with headquarters at Chicago. Mr. Van Doren was serving in this capacity at the time of his promotion to general solicitor.

**G. E. Bramon**, auditor of expenditures of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed general auditor of the Wabash, with headquarters at St. Louis, Mo., a newly created position.

**C. J. Merriam**, auditor of miscellaneous accounts of the Union Pacific, with headquarters at Omaha, Nebr., has been



T. W. Burtress



R. N. Van Doren

promoted to assistant auditor, with the same headquarters, succeeding W. B. Wilkins, who has retired. E. J. Doolin, special accountant and statistician, has been promoted to auditor of miscellaneous accounts, succeeding Mr. Merriam.

**A. W. Lavidge**, assistant auditor of expenditures of the Chicago, Burlington & Quincy with headquarters at Chicago, has been promoted to auditor of expenditures with the same headquarters, succeeding G. E. Bramon, who has been appointed general auditor of the Wabash. **W. R. Eastman** has been appointed assistant auditor of expenditures with headquarters at Chicago, succeeding Mr. Lavidge.

### Operating

**B. Hamilton**, trainmaster on the Illinois Central, with headquarters at Chicago, has resigned to become general manager of the M. Huber Company, contractors, of that city.

**J. W. Rea** has been appointed acting superintendent of the Eastern division of the Missouri Pacific, with headquarters at Jefferson City, Mo., succeeding **W. E. Merrifield**, who has been granted leave of absence on account of ill health.

**W. A. Sullivan**, general manager of the Gulfport & Mississippi Coast Traction Co., with headquarters at Gulfport, Miss., has resigned and the position of general manager has been abolished. **J. T. Dalier** has been appointed superintendent with headquarters at Gulfport.

**W. K. Griffin**, assistant trainmaster of the Kentucky division of the Louisville & Nashville, with headquarters at Paris, Ky., has been promoted to trainmaster, with the same headquarters, succeeding J. J. Grosche, promoted. **H. L. Terrill** has been appointed assistant trainmaster of the Kentucky division, succeeding Mr. Griffin.

**R. H. Dwyer**, assistant superintendent of the Louisiana division of the Missouri Pacific, with headquarters at Monroe, La., has been promoted to superintendent of the Northern Kansas division, with headquarters at Atchison, Kans., succeeding R. E. Cahill, appointed division engineer. **M. J. Crotty**, superintendent of the Central division, with headquarters at Van Buren, Ark., has been appointed assistant superintendent of the Louisiana division, succeeding Mr. Dwyer. **D. O. Ouellet**, superintendent of the Central Kansas and Colorado divisions, with headquarters at Osawatomie, Kans., has been transferred to the Central division, succeeding Mr. Crotty. **W. F. Kirk**, superintendent of the Omaha division, with headquarters at Falls City, Nebr., has been transferred to the Central Kansas and Colorado divisions succeeding Mr. Ouellet. **C. J. Brown**, division superintendent, with headquarters at Sedalia, Mo., has been transferred to the Omaha division, succeeding Mr. Kirk. **E. E. Buckminster** has been appointed trainmaster of the Chester district, with headquarters at Illmo, Mo.

### Traffic

**A. R. Bogan** has been appointed assistant general freight agent of the Missouri Pacific, with headquarters at St. Louis, Mo.

**M. H. Bradley** has been appointed district passenger agent of the Atlantic Coast Line, with headquarters at Montgomery, Ala.

**W. C. Schafer** has been appointed commercial freight agent of the Western Maryland with headquarters at York, Pa., succeeding C. E. Edwards, deceased.

**J. E. Monroe** has been appointed assistant general freight agent of the Alabama & Vicksburg and the Vicksburg, Shreveport & Pacific, with headquarters at New Orleans, La.

**F. J. Vanderblue**, division freight agent for the Chesapeake & Ohio, with headquarters at Chicago, has been promoted to assistant to the general freight agent, with the same headquarters.

**E. B. Farrell**, assistant general freight agent of the Mobile & Ohio, with headquarters at St. Louis, Mo., has been pro-

moted to assistant traffic manager, with the same headquarters, a newly created position.

**H. H. Gray**, general agent for the Southern Pacific with headquarters at Kansas City, Mo., has been promoted to assistant general passenger agent of the lines in Louisiana, with headquarters at New Orleans, La.

**G. C. Wells**, assistant to the passenger traffic manager of the Canadian Pacific with headquarters at Montreal, Que., has been appointed assistant to the general passenger traffic manager, with the same headquarters.

**A. S. Birchett**, traveling freight agent for the Wabash with headquarters at Cincinnati, Ohio, has been promoted to general agent, freight department, with headquarters at Indianapolis, Ind., in charge of a newly established office.

**H. L. Piggott**, district passenger agent for the Wabash, with headquarters at Fort Wayne, Ind., has been transferred to Los Angeles, Cal. **C. R. Chesney** has been appointed district passenger agent, with headquarters at Atlanta, Ga.

**F. C. Lathrop**, assistant general passenger agent of the Southern Pacific, with headquarters at San Francisco, Cal., has been promoted to general passenger agent, with the same headquarters, succeeding **C. L. McFaul**, promoted to assistant passenger traffic manager.

**G. E. White**, assistant general freight agent of the Chicago, Rock Island & Pacific, with headquarters at Chicago, has been promoted to general freight agent, with the same headquarters succeeding **M. A. Patterson**, whose death on December 17 was reported in the *Railway Age* of December 22.

**F. W. Sedgwick**, general agent for the Southern Pacific, with headquarters at Denver, Colo., has been transferred to Kansas City, Mo. **E. H. Williams**, traveling agent with headquarters at Denver, has been promoted to general agent, with the same headquarters, succeeding Mr. Sedgwick.

**P. C. Patterson**, general eastern agent of the Chicago, Indianapolis & Louisville, with headquarters at New York, has been promoted to general freight agent, with headquarters at Chicago, succeeding E. P. Vernia, whose election as vice-president in charge of traffic was reported in the *Railway Age* of December 22.

**D. S. Mackie**, general agent, freight department, of the Michigan Central, with headquarters at Saginaw, Mich., has been transferred to St. Louis, Mo. **E. F. Smith** has been appointed general agent, with headquarters at Saginaw, succeeding Mr. Mackie. **R. H. Doutt** has been appointed general agent, with headquarters at Pittsburgh, Pa.

**J. P. Baker**, general agent for the Kansas City Southern, with headquarters at Houston, Texas, has been transferred to Chicago, succeeding Henry Brown, who has resigned to engage in other business. **C. P. Wilson**, traveling freight agent, with headquarters at Kansas City, Mo., has been promoted to general agent, with headquarters at Houston, succeeding Mr. Baker.

**F. B. Humston**, division freight and passenger agent for the Chicago, Indianapolis & Louisville, with headquarters at Indianapolis, Ind., has been appointed division passenger agent, with the same headquarters, the passenger and freight departments having been separated. **S. L. Wehrung**, general agent at Cincinnati, Ohio, has been appointed division freight agent, with headquarters at Indianapolis, Ind.

**A. Hamilton**, general freight agent of the Central of New Jersey with headquarters at New York, has been promoted to freight traffic manager with the same headquarters. **N. G. Campbell** has been appointed assistant freight traffic manager. **C. L. Ewing**, assistant general freight agent with headquarters at New York, has been appointed general freight agent with the same headquarters. **P. R. Drew** has been appointed assistant general freight agent.

**F. S. Howard**, has been appointed assistant general passenger agent of the Southern Pacific, with headquarters at San Francisco, Cal. He was born on June 5, 1876, at Baldwins-

ville, N. Y., and graduated from Stanford University in December, 1898. In March, 1900, he entered railway service in the traffic department of the Southern Pacific. During subsequent years, Mr. Howard held various positions in the traffic department of the Southern Pacific at San Francisco. From August 1 to December 31, 1918, he served on the passenger tariff committee, traffic department, United States Railroad Administration, at Washington, D. C. His present position as assistant general passenger agent is a newly created one.

**A. W. Thomson** has been appointed superintendent of dining cars of the Northern Pacific, with headquarters at St. Paul, Minn., succeeding L. K. Owen, whose death on December 6 was reported in the *Railway Age* of December 15.

#### Mechanical

**C. J. Scudder**, acting superintendent of motive power and equipment of the Delaware, Lackawanna & Western with headquarters at Scranton, Pa., has been appointed superintendent of motive power and equipment, with the same headquarters.

**John Pullar**, division mechanic on the Atchison, Topeka & Santa Fe, with headquarters at San Bernardino, Cal., has been promoted to acting mechanical superintendent of the Coast Lines, with headquarters at Los Angeles, Cal., succeeding **H. S. Wall**, who has been granted leave of absence.

#### Engineering, Maintenance of Way, and Signaling

**E. R. Lewis**, office engineer of the Michigan Central with headquarters at Detroit, Mich., has been promoted to principal assistant engineer with the same headquarters, a newly created position.

**J. B. Martin**, supervisor of track of the New York Central, lines west of Buffalo, with headquarters at Elkhart, Ind., has been promoted to general inspector of track, with headquarters at Cleveland, Ohio, a newly created position.

**R. E. Cahill**, superintendent of the Northern Kansas division of the Missouri Pacific, with headquarters at Atchison, Kans., has been appointed division engineer of the Northern Kansas division, succeeding **J. S. Bassett** who has been appointed assistant division engineer of the Central Kansas and Colorado divisions, with headquarters at Hoisington, Kans.

**W. T. Main**, division engineer of the Northern Iowa division of the Chicago & North Western, with headquarters at Eagle Grove, Iowa, has been transferred to the Northern Wisconsin division, with headquarters at Fond du Lac, Wis., succeeding **C. J. Frederici**, who has been appointed assistant division engineer of the Peninsula division, with headquarters at Escanaba, Mich. The division engineering office at Eagle Grove has been abolished and its territory added to the Sioux City division.

#### Purchasing and Stores

**A. C. Douglas**, assistant general purchasing agent of the Canadian Pacific, with headquarters at Montreal, Que., has been appointed purchasing agent, with headquarters at Vancouver, B. C. **B. W. Roberts**, purchasing agent at Vancouver, has been promoted to assistant general purchasing agent, with headquarters at Montreal, succeeding Mr. Douglas.

#### Obituary

**W. R. Grimm**, vice-president of the Louisiana & Arkansas, with headquarters at Texarkana, Ark., died at St. Louis, Mo., on January 2.

**W. S. Van Dorn**, superintendent of construction of the Jefferson Southwestern, died at Mount Vernon, Ill., on December 25.

**A. R. Brown**, general agent for the Chicago, Burlington &

Quincy, with headquarters at Winnipeg, Man., died in that city on December 23.

**E. F. Vincent**, special engineer of the Colorado & Southern and formerly chief engineer of that road, died at Jacksonville, Fla., on December 13.

**C. H. Marshall**, superintendent of the Iowa division of the Chicago, Milwaukee & St. Paul, with headquarters at Marion, Iowa, died in that city on January 6.

**W. R. Dowler**, division freight and passenger agent for the Atchison, Topeka & Santa Fe, with headquarters at San Bernardino, Cal., died in Los Angeles, California, on December 30.

**C. M. Secrist**, vice-president and general manager of the Pacific Fruit Express with headquarters at San Francisco, Cal., died in that city on December 19. He was born on July 11, 1860, near Chambersburg, Pa., and entered railway service in 1883 as a telegraph operator for the Chicago & North Western at Franklin Grove, Ill. In September, 1886, he became a clerk and operator for the Union Pacific at Council Bluffs, Iowa, which position he held until December, 1894, when he was promoted to chief clerk to the general freight agent with headquarters at Omaha, Nebr. In August, 1901, he was appointed chief clerk to the director of traffic of the Union Pacific and Southern Pacific with headquarters at Chicago. Upon the organization of the Pacific Fruit Express Company by the Harriman lines in 1906, he was appointed general manager and was later appointed vice-president and general manager, which position he has held until his death.

**William Alfred Winburn**, president of the Central of Georgia since 1914, with the exception of the period of federal control when he was federal manager, died at Rochester, Minn., on

January 8, at the age of 60. Mr. Winburn was born October 19, 1863, at Gainesville, Ga. He entered railway service in 1880 as a clerk in the freight house of the Richmond & Danville in his native city. Subsequently he was a clerk in the office of the assistant general freight agent of the same road at Atlanta, later a clerk in the office of the assistant general freight and passenger agent of the Western North Carolina at Salisbury, N. C., and then clerk in the office of the assistant general freight and passenger

agent of the Richmond & Danville at Asheville, N. C. In September, 1887, he was appointed division freight and passenger agent of the last named road with headquarters at Asheville. From January to April, 1892, he served as a clerk in the office of the general manager of the Columbus Southern, and from April to June, 1892, as a clerk in the office of the traffic manager of the Central Railroad & Banking Company of Georgia at Savannah, Ga. In June, 1892, he was appointed general freight agent of the Central of Georgia. From October 1, 1901, to July 14, 1902, he served as traffic manager, and on the latter date was promoted to the position of vice-president and traffic manager. On July 11, 1904, he was elected second vice-president, becoming on October 12, 1908, vice-president in charge of traffic. On December 20, 1910, he was elected vice-president in charge of traffic and operation, which position he held until April 8, 1914, when he was elected president of the same road. He served as president from that time until his death, except from June 12, 1918, to March 1, 1920, during the period of federal control, when he served as federal manager.



W. A. Winburn